

ROBERT TROUP PAINE

TO

HARVARD COLLEGE.

A LEGACY

IN HIS NAME BEING APPLIED

IN PART TO AN ANNUAL INCREASE

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THE

MONTHLY JOURNAL

OF

FOREIGN MEDICINE.

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SQUIRE LITTELL, Jr. M.D.

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JANUARY, 1828.

Observations on the Unmixed Effects of Mercury on the System, with a few Practical Remarks on some of the most important Tropical Diseases.

By Anthony Musgrave, M. D. Physician to his Excellency the Governor, and Surgeon-General on the Colonial Staff of Antigua, formerly President of the Royal Medical Society of Edinburgh.

From the Edinburgh Medical and Surgical Journal.

To the Editors of the Medical and Surgical Journal.

Gentlemen,

I have been a good deal surprised, since my arrival in Edinburgh, at observing, in the course of conversation with my professional friends, how very generally the opinion obtains, that the more aggravated affections of the bones, periosteum, throat, and skin, which we were formerly accustomed to regard as *venereal*, are in reality to be ascribed to the pernicious influence of *mercury* on the system,—an opinion which is entirely at variance with the results of my own observation, during nearly twelve years' residence in a climate where this remedy is extensively employed. I must, therefore, with your permission, avail myself of the ready channel afforded by your Journal, and lay before the profession a summary of my experience, as it bears upon the point in question.

Permit me, however, to explain, *in limine*, that it is by no means the object of this communication to attack the *non-mercurial treatment of syphilis*. On the contrary, I at once admit that Dr. Thompson's publication, and the writings of Mr. Rose, Dr. Hennen, Mr. Guthrie, and others, who have been more or less its advocates, were long ago so far successful in persuading me of the sufficiency, if not of the *expediency*, of this practice, that I was induced to refer it to the test of experiment in the Colonial Hospital at Antigua. This happened so far back as the year 1819; and having completely satisfied myself, in several instances occurring among seamen, that chancre, accompanied by suppurating bubo, would heal up kindly enough under the antiphlogistic regimen, aided by rest and posture, I put the patients through mild courses of the quicksilver pill, and then dismissed them;—but not till then, as I did not think that sufficient evidence had been up to that time accumulated to warrant me in exposing these men to what might prove to be the secondary consequences of such treatment. For the same reason I did not venture in private practice to dispense with a mode of cure, which early instruction had led me to deem essential, and daily experience gave me no cause to regard as either ineffectual or unsafe, when conducted with circumspection,—without which the practitioner must always be dangerous, exactly in proportion to the power of the medicine he prescribes. The value of the lancet and opium as therapeutical agents, few, I presume, will be disposed to question; but is it not equally undeniable that fatal exhaustion or stupor may be the consequence respectively of the excessive or even mistimed exhibition of either?

That mercury, however, will, in certain states of a constitution long charged with the venereal virus, aggravate those very symptoms which on other occasions it is found to relieve, is a fact which no man of ordinary ability can doubt after having been engaged in practice for a very limited period; and I have myself, when consulted in inveterate cases, repeatedly derived both gratification and professional credit from advising an instant omission of all mercurial medicines, and the substitution of sarsaparilla or the nitric acid. Of phagedenic chancre again, I recollect at this moment more than one case in which the process, rapidly destructive under the use of mercury, was at once and permanently arrested by discontinuing this remedy, and interposing free venesection with the strictest antiphlogistic treatment, both constitutional and local. Whatever, therefore, may be my modified and impartial opinion, it is abundantly manifest that I entertain nothing like *prejudice* on either side of this question; and had the prevailing doctrines been *distinctly* confined to the peculiar operation of the supposed specific when employed against a syphilitic taint,—had it been even inculcated that the amalgamation, as it were, of the two poisons produces a new virus *sui generis*, differing in its action from both constituents, and giving rise to more lamentable effects than

either,* I am persuaded—so ably and zealously have I heard them expounded—that I should scarce have escaped from your city other than a decided convert to these views. But, if I am not mistaken in my estimate, a majority of the profession in Edinburgh go much farther than this.—They believe, or at all events suspect, that *Mercury* is the SOLE parent of that loathsome and malignant progeny which has been hitherto, as they conceive, very injuriously confounded with the purer *Venereal* race, merely on account of some distant resemblance—and it is against the farther dissemination of *this* less harmless suspicion that I feel it to be imperative upon me to protest. It emanates, however, from sources in the highest degree influential.—It has already wrought incalculable mischief by instilling doubt and alarm into the public mind as to the properties of an invaluable remedy,—and it can therefore be successfully counteracted only by a direct appeal to FACTS.

Assuming for a moment this question to be one on which you were entirely without bias, and it became an object to you to ascertain beyond dispute any given effect of mercury, whether beneficial or injurious; what part of the world, let me ask, provided all were equally accessible, would you select as the field of observation and inquiry? Would you content yourselves with an investigation instituted by a class of practitioners here, who sparingly, and with hesitation, prescribe its various preparations by the grain and the half grain?—Or, would you not deem it more satisfactory to ascertain the consequences of its employment under a tropical sun, where, setting aside much deplorable *abuse*, even the most cautious among us,—keenly alive as we are to the inconvenience, nay, the absolute danger of its undue accumulation in the system,—are yet frequently compelled by paramount necessity, arising from past experience of the otherwise fatal result, to administer calomel *by the scruple*, or to repeat smaller doses of from five to ten grains at intervals so brief, as to be justified only by the consideration that we decide between two evils, the greater of which is *death?*

Or,—to put the query in another shape,—let us suppose that you had strong grounds for conjecturing that some peculiar morbid affection,—it little matters what,—was the offspring of a certain agency, which had hitherto eluded suspicion; the effect in question being universally attributed to causes of a different kind. Would you, in such a case, look for a confirmation of your conjecture, in the more general prevalence of this affection, towards districts where the influence of the suspected cause was only *partial?* or would you not rather resort to those where you knew it to be in *full* and *extensive* operation?

The replies which can alone be offered to queries such as these follow too palpably to admit of hesitation, even on the part of my opponents. In order, therefore, to establish a conclusive case against them, framed upon admissions thus extorted from themselves, it will be merely necessary for me to show, *first*, that a practitioner, *ceteris paribus*, would see as much mercury exhibited within *one* year in the West Indies, as another could possibly do in *five*, whose sphere of observation was limited to Edinburgh and its neighbourhood: and, *secondly*, that, notwithstanding this lavish consumption within the tropics, we, who have laboured there for a series of years, have not only failed to discover those pernicious consequences for which the anti-mercurialist contend, but have had constant occasion to remark, that examples of what is called secondary syphilis are comparatively rare, under circumstances which, had they the shadow of foundation for their suspicions, ought to render such cases as numerous, or nearly so, as the sum of inhabitants in an island.

I pledge myself to do this—and to show farther, that the unmixed venereal poison is fully capable, through neglect or concealment, of effectuating the very consummation of that mischief which they hold to be the "martyrdom of mercury."

With a view then to establish, in the least exceptionable manner, the superiority of the West Indies as a field for observing the effects of mercury, allow me to take a very hasty glance at the practice which at this moment prevails in regard to our principal diseases.—I shall notice them in the order of their general importance.*

The mercurial treatment of the *Fevers* of warm climates has little novelty to recommend it. But when I mention that the manual of Chisholm, and the works of Johnson and Armstrong, are held in general estimation as the best guides to which those in practice can refer, it were superfluous to add, that the number who confide in it is not likely to be diminished;—and, undoubtedly, in a majority of instances, its well regulated application will amply repay this confidence. But here, as elsewhere, the nicest discrimination must be exercised, if we would steer wide of the shoals and quicksands of empirical routine.

In the more concentrated form or higher grade of fever, as it affects Europeans, which has acquired the common denomination of *Yellow fever*—I mean the *continued*, and, if I may be allowed the expression, the more *open*

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* This would be somewhat according to Sintelaer.—See an excellent Analysis of the Scourge of Venus and Mercury, London, 1709, and other works on Syphilis, Pseudo-syphilis, and Mercury, in the Med. Chir. Review for December 1821.

* The observations throughout this letter must be taken as specially referrible to Antigua, as my practice has been altogether confined to that island; and the diseases will follow according to the order in which, from the *frequency* of their occurrence, they have claimed my attention.

type, (such as prevailed in Antigua in 1816, and of which a history, sketched for the information of my respected friend, Dr. Ferguson, has been long before the public,)*—my experience leads me to believe, that mercury, administered with a view to the saturation of the system, may be judiciously dispensed with; and an opinion to this effect, which I have since seen no reason to alter, will be found in the article alluded to. In cases like these, we find the heat to be intense and general—the arteries, as far as the finger can trace them, have their calibre fully distended, showing the blood to be equally distributed among their extreme ramifications.—In a word, we have to rescue our patient from urgent inflammatory action, not to obviate the more insidious, but not less destructive consequences of congestion.

The immediate and rapid abstraction of blood from the arm, or temporal artery, or both, to an extent to be limited, less by the quantity, however large, than by its decided effect upon the circulation, as deduced from that degree of faintness which is accompanied by copious and general perspiration;† active purgative combinations, into which calomel must liberally enter; and the external application of cold water, under the form of affusion or sponging, with occasional aid from the razor and blisters, are here to be mainly depended upon, and will, in nine cases out of ten, prove sufficient to save our patient, when employed within twenty-four hours from the attack. But we are liable more frequently to a form of fever, peculiarly calculated, from its masked approach, to lull the patient into mistaken security, and thus to baffle, in its subsequent progress, the best directed efforts of our skill; and this form is undoubtedly treated with greatest success by the rapid induction of ptyalism.

Sporadic attacks of a more or less deceitful type, are indeed annually to be met with in some of the low swampy situations with which Antigua unfortunately abounds; but, towards the close of 1823, an epidemic of this kind appeared to an extent which spread the utmost consternation among all classes of inhabitants; for, singular to say, it evinced no predilection as usual for our European visiters. The whites, the coloured, and the blacks, males and females, infancy and old age, were alike susceptible of the malignant influence of the air, although that influence might be exerted with varied degrees of intensity.

The disease was commonly ushered in by a mild intermittent paroxysm of brief duration. The chilly fit, occurring generally at bed time, was succeeded by moderate heat, and this again terminated by sweating towards morning; so that, among the planters, for example, who were the principal sufferers, the patient would rise at daylight, take his breakfast as usual, and proceed to his accustomed occupation, without attaching the slightest importance to the indisposition of the night. The same would be repeated on the following evening with a similar solution of a rather aggravated paroxysm. But the third return, although commencing as before, would speedily be followed by some marked derangement of the censorium, which was probably the first signal for demanding medical advice. The individual was then commonly found talking wildly, with the heat concentrated about the head and trunk; the extremities cool, and covered with a greasy dampness; the pulse at the wrists extremely quick and small; respiration hurried; tongue brown and dry, or covered with a frothy slime; but the stomach generally retentive. Black vomit, as far as I know, was *never* observed, and discoloration of the surface with hemorrhage in *one* case only.*

These symptoms too often advanced with rapid strides to their termination in death, preceded by low delirium, or coma; sometimes within forty-eight hours, generally before the close of the third day from the last accession, which completed five from the first moment of complaint. Life was rarely protracted beyond this period without ultimate recovery, although convalescence might be occasionally tedious.

Such, in broad outline, were the prominent features of this singular modification of edemic disease—we must call it a *malignant intermittent*—in which so little resemblance can be traced to the yellow fever of authors. I have no difficulty, however, in regarding it but as an opposite degree of the same continuous scale, modified by agency which is beyond our ken,—for, although I have roughly delineated the phenomena exhibited by a very great majority of cases, here and there an example did occur in European habits of a form either continued *ab initio*, or preceded by one slight paroxysm only, and yielding to the vigorous treatment I have already described; and, among the slaves, we had an opportunity of observing every variety of the simple intermittent, which mingled itself by almost imperceptible gradations with the reigning epidemic.

I ought long ago to have recorded a full

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* See account of the yellow fever as it appeared in Antigua in the years 1816-17, by A. Musgrave, M. D.—Med. Chir. Transactions, Vol. ix.

† When the patient becomes faint after a first and early bleeding, before perspiration breaks out, the finger ought only to be placed over the orifice till the horizontal position, and a little cold water, cause the stream to flow freely again. During the epidemic I am about to describe, I more than once drew three pints of blood in this way from plethoric habits with the happiest effect, when consulted immediately on the accession of the first paroxysm of fever.

* Among our younger patients, convulsions very commonly ushered in the alarming paroxysm.

detail of the origin and progress of this visitation, which extended from October 1823 to January 1824; but what I have now said will suffice for my present purpose, which is merely to convey some slight idea of the kind of fever which I hold to be the proper subject of mercurial treatment. On this occasion indeed I am persuaded, that where no assistance was obtained, as was too frequently the case, till after the third and dangerous paroxysm was established, any improvement which subsequently took place was chiefly to be ascribed to the operation of this mineral; nor am I aware of a single recovery, under these alarming circumstances, where recourse had not been had to its use. By its unrivalled power in equalizing the distribution of blood, the accumulated mass, lying stagnant in the almost palsied organs, was gradually put in motion. These organs, consequently, resumed their suspended functions; the wonted secretions were again established, and, being copiously poured forth, the system thus became relieved from an overwhelming oppression. Such at least appeared to me to be the *modus operandi* in favourable cases. Salivation I regarded as an indication of the full action of the medicine, and therefore hailed it as the harbinger of good. I did not, however, believe it to be necessary to success, —nay, I could have wished it excluded from its effects; and, under this impression, I never failed to expunge the mercurial from my prescriptions as soon as the rising of the pulse and the incipient restoration of heat to the extremities gave me reason to conclude that the object at which I aimed was about to be accomplished.

Calomel was the preparation generally resorted to by all classes of the profession, upon the principles, under the restrictions, and in the doses laid down by Chisholm and Johnson; and, before ptyalism was set up, which is so much insisted upon by these authors, seldom less than one hundred, often *hundreds*, of grains were accumulated in the system.*

In my own practice, I found that a liberal addition of camphor economised the quantity of mercury, not only by accelerating its effect through a stimulus at once general to the system, and local to the mouths of the absorbents along the digestive tube, but also by exerting over the purgative and griping effect of calomel a controlling power second only to that of opium, if indeed it be not altogether equal. My common prescription, therefore, after unloading the bowels, was two scruples or half a drachm of calomel, with half a drachm or a scruple of camphor, divided into twelve pills, and of these two were directed to be taken every second, third, or fourth hour, till some marked improvement was observed. No practitioner, however, who deserves the name, would blindly pursue one determined system in the teeth of conflicting indications; and it is therefore scarcely necessary to state, that this plan was in each instance modified or assisted internally by such of the simpler articles of the materia medica as circumstances seemed to render advisable; and that externally the warm bath and frictions, blisters and sinapisms, were assiduously called in aid for the purpose of soliciting the blood from the viscera to the surface. But I must not omit some special notice of the lancet and bark, lest I become amenable to a charge either of ignorance or neglect.

After many successive deaths had rendered the alarm general, and application was made for assistance at the first onset of the disease, a single bleeding, to its fullest effect upon the circulation before the orifice was closed, was uniformly successful either in at once putting the symptoms to flight, or in so modifying their subsequent character, that the identity of the attack with the prevailing epidemic was hardly to be recognized.* At a later period, too, advantage appeared sometimes to follow venesection, or, more frequently the abstraction of a few ounces of blood from the temporal artery in urgent affections of the head; but, taking the sum of my experience on this and other occasions, I could wish to make it the means of impressing upon my junior brethren in the West Indies, that much danger is incurred by using the lancet too hastily after fevers of any kind have at all advanced in their course. It is further of essential importance to remark, that, when the type under review is the subject of treatment,

* "In conjunction with cold thus remedially directed, calomel, in every severe case, and in every stage of the disease except the last, was largely exhibited. In some of those whose terminations were fortunate, from 300 to 500 grains were exhibited; and in no case did its conjunction with the cold treatment appear either during the illness or convalescence of the patient to have been injurious. From five to twenty grains, according to the age of the patient, or the severity of the attack, were given in pill or powder, combined with pulvis aromaticus, or the aromatic electuary, every two, three, or four hours, until the bowels were freely evacuated, and the system effected, or until perseverance in the remedy was evidently unavailing. This practice was eminently successful, although cases did occur where even salivation, though early induced, could not avert the fatal termination of the malady."

See an admirable history of the malignant epidemic which raged in the island of Montserrat in the year 1821, by Richard H. Dyett, M. D. published among "Facts and observations in refutation of Sir Gilbert Blane's doctrines as to the contagious nature of Yellow Fever, by A. Musgrave, M. D. of Antigua." Med. Chir. Review for March 1824.

* This alteration of type under the operation of remedies affords one among the many proofs, that all these varieties of fever are only links of the same chain.

and the propriety of bleeding is considered with reference to the duration of the disease, this duration must be reckoned, not from the last chilly fit which ushered in the persisting symptoms, but from the first intermittent paroxysm, however slight it may have seemed to the patient; for by the latter, which is the *correct computation*, the third, fourth, or fifth day may have arrived before a careless observer would suspect that any thing like serious indisposition had commenced. When matters have unfortunately gone thus far before we are made aware of the real danger of the attack, it is now my steady conviction, that it will be invariably more judicious to confide the safety of our patient to calomel and camphor, with due regard to purgatives and external adjuvants, than to risk an attempt to move the supervening congestion, however menacing, by bleeding. The indications at this period are beyond measure fallacious; and, if a vein be imprudently opened, it will too probably happen that the distress, whether general or local, which prompted the measure, may indeed appear to subside, and the practitioner be induced for a time to congratulate himself on its success; but, before or soon after the arm is tied up, a copious sweat will break out, which, becoming more and more profuse, with a corresponding sinking of the pulse, the patient will expire within twenty-four hours, in perfect possession of his mental faculties, and complaining of no sort of uneasiness beyond that which is inseparable from dissolution. I could wish it to be also remembered, that the same unexpected sinking may be the consequence of venesection, even at a much earlier period of *intermittent* fevers, provided a spontaneous solution of the paroxysm be on the eve of taking place; for I have seen more than one remarkable instance where the constitutional effort to throw off the heat by perspiration, co-operating unluckily with the powerful relaxation which follows the loss of blood, proved sufficient to reduce the patient to an alarming and even irretrievable state of exhaustion.

It is doubtless difficult to understand—to me it appears nearly inexplicable,*—why a cause, which dissection afterwards shows to have operated by a process of local disorganization, should, in the first instance, manifest its action under the mildest and most harmless form of fever, with periods—as far as the eye, the touch, and questions can detect—of *complete* intermission; and yet that the progress of the structural mischief—if we may judge from the aggravation of each successive paroxysm, and the sometimes inconceivably rapid termination of the last in death,—should continue, without interruption, during these apparent cessations even of functional disturbance. Perhaps, too, it is not the least surprising fact connected with this point, that bark, a remedy to which we are in general so little disposed to commit visceral inflammation, should, under such circumstances, manifest its accustomed power; for whenever we had an opportunity, during the epidemic under consideration, of putting this power fairly to the test, we certainly had no reason to be dissatisfied with the result. Three cases I particularly remember, in which the paroxysms, (not congestive, however,) continued to recur after ptyalism was distinctly brought on, and yielded at last, or appeared to yield, to a drachm of the powder given in a wine-glassful of the decoction, as often as the stomach could bear the dose, during the absence of fever. Unfortunately we had not then procured the sulphate of quinine, of the superiority of which, over every other preparation, I have since obtained highly satisfactory proofs, by extensive trial of its effects.

These last cases, I may remark, are in utter discordance with that *dogma* which assumes the absolute incompatibility of the febrile with the mercurial action; but I do not apprehend them to be equally irreconcilable with the idea I have myself adopted of the salutary operation of the latter. At any rate, it is sufficient to know that similar occurrences are incalculably rare, nor can I see why the maxim of law, that "Exceptio probat regulam," should not also be extended to medicine.

But I find that this subject has already led me too far from the professed object of this letter, and I shall therefore only add, that during about ten weeks that this epidemic prevailed, I had occasion, among my own patients, to treat *fifty-nine* whites and *fourteen* coloured persons. Of the former *six* died, of latter *two*. In consultation I saw *thirty-five* cases, of which *fourteen* proved fatal, making an aggregate of 109 cases, with twenty-two deaths, or a proportion of about *one* in *five*.

Our cases among the *slaves* must have more than doubled this number; but as they fell chiefly under the care of Dr. Sheriff, now of Dominica, except when alarming symptoms demanded my personal superintendence, I have preserved no accurate memoranda of that class. Some fatal terminations occurred here also, but by no means in equal proportion to those I have referred to, among the white and coloured inhabitants.*

Next in importance to fever, in Antigua at least, is the *St. Anthony's Fire*, as it is there

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* M. Dufau, in his paper on "Intermittent Irritations," has communicated to the profession some interesting facts, but he has by no means *explained* them. (Journal General de Medicine. Med. Chir. Review, April 1827.)

* It may be as well to suggest that, by noting the greater mortality among the consultation cases, I cannot have the slightest intention to insinuate that my own treatment was more judicious than that of my brethren, as these cases were divided among many practitioners, and must obviously have been an aggregate of the most unpromising on the list of each.

generally denominated; the *Rose; Erysipelas;* the *Elephantiasis* of Hillary; the *Glandular Disease* of Hendy, or, as it would be more correctly termed, the *Migratory Inflammation of the Lymphatic System.* This alteration of the name would have the advantage, always desirable, of comprehending the pathognomonic feature of this singular affection—I mean its tendency to metastasis—which has not hitherto been sufficiently noticed. Indeed, the St. Anthony's Fire has always appeared to me to be as completely a constitutional disease, as dependent upon a peculiar diathesis, and as prone to migration, as gout itself. Like gout, too, I believe it to be the offspring of causes in some instances hereditary, in others, derived from the habits or circumstances of the individual.

An inexperienced practitioner, who sees this complaint in its acute and early stage, would have some difficulty in conceiving it to be the first link in that chain of morbid alterations of structure, which terminates at length in the unseemly Barbadoes leg—the *bucnemia tropica* of Mason Good. Its first invasion—and the accession may be repeated under a similar form for a considerable period—is announced by very severe rigours, speedily followed by febrile heat, so pungent, that I have often been able, from these circumstances alone, to predict the supervention of the distinctive inflammation, even when the individual had never before been subject to its attacks. This inflammation, sooner or later, within forty-eight hours, (if not primarily affecting the viscera,) betrays itself in the scrotum, the mamma, or some part of the extremities, most frequently about the ankle, or high up the leg among the inferior glands of the groin.

Although commonly circumscribed at first, it not unfrequently diffuses itself over the whole limb, or even extends to the contiguous surface of the trunk; and when the glands themselves are not involved, indurated cords, extremely painful to the touch, can be traced to the nearest cluster. But whatever may be its original seat, the patient is never secure, while the constitutional disturbance subsists, from a sudden retrocession to some vital organ. I have seen it, in the same case, translated from the scrotum to the head; from thence, after a few hours, descend with the rapidity of lightning to the abdomen,—again migrate to the chest, to return perhaps to the encephalon, and prove fatal there;—or, under more favourable circumstances, resume its comparatively harmless situation, and run its subsequent course as if nothing untoward had occurred; and, while occupying the different cavities, giving rise to the ordinary symptoms of acute inflammation of that particular viscus which it had selected for its temporary abode.

Now, long before my time in the West Indies, the best informed practitioners had ascertained, by experience, that, in addition to warmth locally applied, and the ordinary purgative and febrifuge medicines, mercurial saturation of the system was the best means of securing the patient against this erratic disposition; and, accordingly, ptyalism was the usual companion of convalescence from an attack of this very common complaint.

As all young men ought to do, who have not unexceptionable motives for an opposite line of conduct, I adopted the practice of my seniors, and have never had cause to question the correctness of their conclusions; for I remember no case of fatal metastasis after swelling of the gums had been unequivocally observed; a subsidence of the constitutional symptoms having invariably either preceded, or been simultaneous with this effect, even when the local inflammation has continued a course which terminated eventually in suppuration. I am, indeed, strongly disposed to believe, that, since the mercurial treatment has become general, the number of cases ending in a local and permanent deposition of lymph has been materially lessened; as I could name many individuals subject to this disease, affecting the leg, the thigh, or the scrotum, whom I have attended for a number of years, and who yet continue to shake off each successive return, without retaining the slightest trace of its having existed; or, at worst, with a trifling induration of the inguinal glands. One excellent gentleman I have particularly in view; because his life being infinitely valuable to a numerous family, the case gave me more than ordinary anxiety.—I found it necessary to subject him to the influence of mercury, twice or thrice annually, from my first arrival in Antigua; for attacks of this kind, placing his life in jeopardy by their sudden transition from the groin to the head or abdomen: but, up to the time of my leaving the island, he nevertheless remained exempt, during the intervals, from the usual indications of this unlucky diathesis; and, what is more, without either *nodes* or *bone-aches.* This must be deemed peculiarly fortunate in the case of a married man; as, otherwise, injurious doubts might have arisen, whether occurrences so suspicious were to be attributed to me, or not rather to indiscretions of his own.

Before leaving this subject, it may be proper to remark, that, after experience had given me confidence, I was induced, when either of the great cavities was implicated, to have recourse to the lancet more boldly than was sanctioned by some of my brethren, whose opinions I respected; their objection being founded upon the idea, that the inflammation was *erysipelatous,* and therefore prone to assume under depletion, a low gangrenous character. But, to say truth, even admitting the force of an objection, which is now, I believe, but little regarded, I am by no means quite sure that the phlogosis in question bears the supposed analogy to erysipelas. At all events, the redness differs little from that of phlegmon, and suppuration under the form of genuine abscess is an extremely common occurrence; while, on the other hand, external gangrene is rarely, and vesications are almost never observed.

Next in the order I have adopted comes the *Dry Belly-ache* of our islands, or that peculiar form of colic for which I have proposed to substitute the more descriptive term of *Hepatic Ileus*. But, for the results of my experience in this disease, I must refer you to a paper of mine already before the profession, in which many points are considered, which bear closely upon the subject of this letter.*

I must not, however, omit to mention, as highly illustrative of what I am anxious to prove, the case of an old pupil of mine, who, under my own management, was salivated seven times within the years 1822 and 1823, for as many alarming attacks of this complaint;—yet I apprehend it would sorely amaze that gentleman, as it most unquestionably would me, were he to find himself, on that account, losing his nose or his palate,—suffering under cutaneous ulcerations, deep and foul—or graced with the corona veneris.

Nor can I help noticing the singular corroboration of my views, with regard to the efficacy of mercury in dry belly-ache, to be deduced from the reports of M. Laennec, at La Charité for 1825, as condensed in the same number of the Medico-Chirurgical Review, in which a favourable analysis of my paper also appeared. "A young man was under treatment for colica pictonum, but apparently with little success. Meanwhile an unequivocal peritonitis supervened, and the usual treatment of La Charité was instantly suspended; leeches were applied to the epigastrium, which gave momentary relief; large mercurial frictions were quickly employed, (half an ounce of strong mercurial ointment daily,) and, on the fifth, ptyalism arose, and continued more or less for a month. From the moment salivation appeared, every other symptom of disease disappeared, 'Mais le malade se trouva parfaitement gueri, et de la peritonite, et de la colique de plomb, dès qu'il eût commencé à saliver.' It has long been known," adds the London Reviewer, "that mercurialization arrests the colica pictonum, 'and that it is no mean antidote to peritoneal, or indeed any other visceral inflammation, whatever may be the scepticism of some practitioners who are blinded by prejudice,' or, according to M. Laennec, 'ce succes des frictions mercurielles, dans un cas aussi grave, prouve assez, combien elles meritent de confiance dans le traitement de la peritonite.'"

I anticipate the objection, that this mode of treatment comes badly recommended, when I acknowledge it to have given such transient relief, and to have been so repeatedly necessary, in the instance to which I just now adverted. But this objection would be more specious than valid. Let me therefore at once obviate it by stating, that the gentleman in question was obliged, by circumstances, to continue his residence on the estate where he had originally contracted the disease, and where his brother had previously fallen a victim to it,—that during each illness he was, by my advice, removed to St. John's, and returned after recovery only to sustain another attack within a very few weeks;—but that the moment he was permanently removed to a distant part of the island, his convalescence was, as I had predicted, not only complete, but lasting. He has since been a student in Edinburgh. I had the pleasure a few months since of taking him by the hand in London; and he is now in perfect health assisting his brother, a practitioner at Kensington. This case was prominent among those to which I have elsewhere alluded, as convincing me of the influence of local causes in the production of dry belly-ache.

The application of mercury to the cure of *Liver complaints*, whether affecting the structure or functions of that organ, is so generally known, that it would but exhaust your patience, were I to do more than remark under this head, that the manner of prescribing the blue pill and inunction, in chronic derangements of the abdominal viscera in general, furnishes an example of the use of the remedy more analagous to the management of syphilitic cases than its bolder exhibition on other occasions. I shall therefore pass on to

Tetanus, another most important disease, in which, after a greater share of experience than I wish to have again, of almost every mode of treatment which has yet been proposed, I have for some years placed considerable reliance on large doses of calomel, in combination with opium and camphor, preceded by copious blood-letting, when not forbidden by circumstances, and aided by active purgatives, and the external treatment which I shall immediately have occasion to mention. During the course of my professional career I have had the satisfaction to see numerous recoveries from the most aggravated degrees of the traumatic form of this complaint. Whether *post* or *propter*, with reference to the remedies employed, it may be competent to any man to question. But when we contemplate, without prejudice, the Herculean weapons which have been wielded in these struggles, between the physician and the disease, if we are sceptical enough to doubt their agency in the *cure*, we cannot choose but wonder that they failed to *kill*.

As a recent example of the practice to which I allude, and of its *occasional*, I would I could say its *general* success, I may sketch the case of a stout young negro, John Dickman, a slave of Captain Thomas Clark. This man, in the course of his duty as a seaman, on board a small coasting vessel or drogher; had his right hand extensively lacerated by a haulyard drawn through it with great velocity, by the accidental falling of a heavy weight, to which the opposite end of the rope was attached. The flexor tendons were denuded

* Observations on the Nature and Treatment of Dry Belly-ache, by A. Musgrave, M. D. London Medical Repository for November 1825; and Medico-Chirurgical Review for January 1826.

and severely bruised, and the distal phalanx of the middle finger was forcibly torn away. Tetanic symptoms supervened on the 10th, and assistance was demanded on the 11th day from the accident.

The patient fell chiefly under the care of Dr. Furlonge, who then practised with me, but was often seen by myself. He was blooded twice to syncope on the first day; and a blister was afterwards applied, extending from the sacrum to the occiput, and was not allowed to heal. The wound, after a free division of all partial adhesions, was dressed with equal parts of the oil of turpentine and laudanum, applied on caddis, which was frequently changed, and covered with a large warm poultice; and frictions were diligently instituted about the jaws, the neck, and epigastric region, with a strong anodyne liniment, or powdered opium, rubbed up into an ointment with lard. Active purgatives (such as the *Ol. Terebinth*, when the powers of deglutition permitted; the pulvis jalapæ comp. with croton oil, suspended in cinnamon water, or castor oil following upon an uncombined ℈*i.* of calomel) were also occasionally interposed and quickened when necessary by stimulating clysters. But the prescription which was assidiously persevered in, from the 6th to the 15th of the month, (or for ten days inclusive,) was ʒ*i.* of calomel, ℈*ii.* of camphor, and ℈*i.* of opium, with the due proportion of conserv. ros. divided into six boluses, of which he took one at various intervals, ranging from one to four hours, according to the urgency of the spasms, till he had consumed the amount of *ten* such formulæ; and, adding the quantity given with the purgative medicines, I find, on consulting my notes, that 670 grains of calomel were prescribed for this man within the short period I have specified. Some allowance must doubtless be made for waste in administering the boluses, in a case where the difficulty of swallowing was sometimes as alarming as inconvenient, from the violent spasms which convulsed the muscles about the throat. But a more resolute fellow I have never had occasion to treat. I have seen him pause over a dose till he was enabled, as it were, to take the spasms by surprise, and then suddenly gulp the bolus with success; and in this way an enormous accumulation must, after every deduction, have taken place in the system. Yet, it is very remarkable that, while reckoning at best upon a frightful ptyalism as soon as the constitution had resumed its obedience to ordinary impressions, I was both delighted, and beyond measure surprised to find, that perfect recovery was established, without even a swelling of the gums.

I cannot pretend satisfactorily to account for an exemption which, to a similar extent, I have never observed on any other occasion. But let me suggest by the way, that by far the greatest accumulation of mercury took place during the first four or five days. The intervals between the boluses are noted after that period as considerably lengthened by the interposition of one or more doses of laudanum; and when the mercury was entirely omitted, it was deemed advisable to continue the laudanum for several days, so as gradually, not abruptly, to withdraw its effects. Is it not possible, therefore, that the susceptibility of the system might have been thus kept under control, till, by channels, remote from the salivary glands, all remains of the mercury had been completely eliminated?

As the judicious interposition of the lancet renders the system more obedient to the influence of mercury, so undoubtedly does mercury, in combination with antimony and opium, obviate the necessity of recurring again and again to the lancet; and hence, by skilful management, we can secure to ourselves the co-operation of "the right and left hands of medicine," so that they may be made mutually to spare each other, by giving; and receiving assistance in opposing the ravages of acute disease. This is indeed an advantage of the highest importance, for I know of no practice more fraught with peril to the patient than that of *reiterated* bleedings. No man who has been accustomed to meet me at the bedside will be disposed to question my firm reliance on the salutary powers of venesection, when prescribed at proper stages. Few, perhaps, have drawn larger quantities of blood than I have within a given period. Yet I unhesitatingly express my conviction, that in enteritis, pneumonia, and (with reference to this last point) I may add apoplexy and injuries of the head, many an individual has been hurried to the grave merely because the student is taught that blood-letting is the *sine qua non*, the *unicum remedium* on these occasions, and therefore, on entering upon practice, knows not what else to do. Surely, after having emptied the vessels to a reasonable extent without success, we can at worst only lose our patient by giving nature a little play, whereas, by farther interference, we shall too probably be at once deprived of all chance from her *vis medicatrix*, which ought never to be held in contempt. Several times has an unlucky third or fourth bleeding appeared to me to accelerate and enfeeble a tolerable steady pulse to a degree from which it has gradually proceeded to entire extinction; and, although the effects of this kind of exhaustion have presented themselves to me under a form somewhat different from that which has been described by Dr. Hall,* I am still gratified to observe that the attention of the profession is likely to be more pointedly turned, by his remarks, towards a species of danger which has been hitherto not sufficiently appreciated.

But I have dilated too largely upon the diseases which have already passed under review, and it therefore becomes necessary that I now bring the list to a close, by comprising in few words, that in *dysentery*, *rheumatism* of every kind, and all *acute inflammations*, whe-

*Medico-Chirurgical Transactions, Vol. xiii.

ther of the head, chest, or abdomen, which assume a menacing character, calomel and opium, with emetic tartar or camphor, or both, are very commonly relied upon after, or in conjunction with, blood-letting, purgatives, and blisters; and that the tropical practitioner, who is unacquainted with the influence of alterative doses of mercury over those *ill-conditioned sores* (not venereal) to which the slaves are occasionally liable, is ignorant of the most effectual means of affording relief to a very important class of his patients. With such doses, and a regulated diet, these ulcers will yield to the simplest dressings;—without them the pharmacopœia chirurgica may be exhausted in vain.

I believe you are aware that in my part of the world we have no professional distinctions. We are all of that class which, in Great Britain, would be denominated *general practitioners*, that is to say, we prescribe, we amputate, or have recourse to the forceps or crotchet as occasion may require; with this disadvantage, however, that, in obscure or difficult cases, we are without appeal to those who have exclusively devoted themselves to either branch of practice. This state of things obliges each member of the profession to keep an establishment for dispensing his own prescriptions; and it hence occurred to me, as soon as my thoughts had been turned to this subject, that I might render the weight of my individual testimony respecting the unmixed effects of mercury on the system more definitely appreciable, by ascertaining the quantity of its different preparations actually consumed by my own patients, or those of my partners or assistants under my immediate inspection, from the time of my first embarking in practice to the present day. I accordingly wrote to our druggists, Messrs. Gordon and Graham of Oxford Court, Cannon Street, London, with whom I have corresponded during the whole period, requesting a reference to their books, and a memorandum of the amount of their shipments to Daniell and Musgrave, to myself, and to the existing firm of Musgrave and Crichton; and, by their letter of the 10th of April, I find that, from the latter end of 1814 to the year 1826, they have actually supplied, to these several addresses, 111 pounds of calomel, 61½ of blue pill, and 131 of mercurial ointment; the average consumption of the last four exceeding, as might have been anticipated, that of the eight preceding years; being about twelve pounds annually of calomel alone. It must be remembered, besides, that my experience has been by no means confined to the quantity dispensed in my own establishment, for I have always been a good deal engaged in the cases of others; and, indeed, for many years, the consultations throughout the island have been almost entirely divided between my friend and partner Dr. Crichton and myself, both before and since the junction of our interests, which took place in January 1825.*

Looking, then, upon the formidable catalogue which I have thought it advisable to submit for consideration, with the evidence now adduced of the quantities of mercury I have seen expended in treating the diseases which this catalogue embraces, can you hesitate to concede to me a right which you would doubtless, in my place, claim for yourselves—that, namely, of inferring,—if not the absolute *impossibility*,—at least the extreme, the almost inconceivable *rarity* of occurrences which could altogether have escaped the most watchful observation, during the period, and under the circumstances to which this letter refers? And assuming a concession which cannot, I apprehend, be consistently withheld, may I not confidently go farther, and ask of those who believe in the pernicious influence of mercury on the bones and their periosteum, the throat, and the skin, how this belief is to be squared with the assertion which I now unequivocally make,—in terms and by facts which court publicity, in order that they may be rebutted if possible by the testimony of others,—that I have never either seen or heard of a case where symptoms, bearing the stamp of secondary syphilis, in the common acceptation of these words, were even *suspected* to be the offspring of mercury administered for the cure of any other disease,—that the *only bones* I have ever seen, either immediately or ultimately, affected by the most aggravated cases of mercurial mismanagement, were those of the upper and lower jaw, whose vitality might have been partially destroyed by a process of denudation, caused by extensive sloughing within the mouth, which involved their periosteum,—and that the sole injury I have had occasion to notice after recovery from excessive ptyalism, which could even *by supposition* be connected with any but the two bones I have mentioned, was on one occasion a paralysis of the *portio dura* of the right side, producing that peculiar effect upon the countenance, so well described by Mr. Bell? This paralysis, however, evidently arose from the thickening of some portion (probably the lining) of the canal, through which that nerve passes from within the cra-

* I am not insensible to the danger I incur, by publishing this statement of particulars, of being regarded, by the less charitable among my brethren, as destitute, either of *principle*, in grossly misstating facts, or of *judgment*, in sanctioning such abuse of a remedy, which, even by my own showing, is open to numerous and heavy objections. I must therefore acquit myself of either imputation, by observing that, independently of private practice, the medical care of a very large number of slaves attached to estates, as well as of the Colonial Hospital, and poor of the most populous town and division of the colony, gave me, from the very commencement of my career, the superintendence of a greater proportion of sick than can fall to the lot of any but those in charge of large hospitals in this part of the world.

nium to the face, caused by inflammation extending to it by *direct continuity* of parts.*

Having thus proved as clearly as the nature of the question admits, that, from the numerous objections which may fairly be urged against an abuse of mercurial medicines, we must exclude all apprehension of constitutional injury to the bones, under any circumstances whatever, when the venereal virus does not contribute to that injury; I must now endeavour to convince you and your readers, that the latter is abundantly capable, without foreign assistance, of giving rise to those extreme cases, which have been the chief source of discordance among medical men; for if it be not so, then I am yet to learn how several which I have met with among the slaves are to be rationally explained.

The promiscuous intercourse indulged in by our black population is, I believe, sufficiently notorious, nor am I sanguine in hoping that they will be speedily prevailed upon to lead more regular and creditable lives.* But the younger women have, nevertheless, a certain character to support. Many of them are ambitious of forming temporary connexions beyond the class in which they live, not improbably with the white persons on their own or the neighbouring estates; and hence it is not difficult to appreciate the reluctance which they must naturally feel to expose themselves to neglect or disgrace, by applying at the public hospital or sick-house for relief. The consequence is, that they consult nobody till matters are too far advanced to be longer concealed from those more immediately about them. Even then, however, with the entire concurrence of the seniors of the family, the requisite assistance is sought for, not from the medical attendant of the master, but at the hands of some black and veteran Æsculapius on the property; for we abound in such characters, both male and female, eager to undertake by *bushes* the cure of complaints, which they contend are less successfully managed by the licensed practitioner. The necessity this concealment enforces of laborious exposure to the vicissitudes of weather, added to the continued use of their favourite diet, into which salted meats and fish always enter, as largely as their means will allow, produces a daily augmentation of evil, till at length the poor woman presented for treatment, sometimes with ragged ulceration of the throat, accompanied by caries of the bones of the palate and nose; at others with nodes and bone-aches, cutaneous blotches; or, to be brief, with any of the infinite variety of appearances which it would be superfluous to enumerate here.

It will readily be granted, on my part, that the imperfect history almost always obtained with cases of this kind, in which we are often gravely assured that the unhappy girl is yet a stranger to sexual intercourse, precludes our arriving at absolute certainty that no mercury has been previously used; but when we re-

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*"Dr. Thompson (Henry) has served in hot climates, and he acknowledges that the affections of the bones, attributed to mercury, 'very seldom take place;' but that they *never* happen 'he is *convinced* is not the case.' Now, to this we would reply in the words of the lawyer in the play—'No *convictions*, Sir; stick to *facts*.' Dr. Thompson does not produce a single fact, nor does he assert that he ever saw a case of the kind. He is *convinced*, however, that they do occur, because 'it is consonant to *reason* that they should.' Again, we say, 'no reasoning, stick to facts.' For our parts, we have seen at least *some thousands* who had undergone courses of mercury for dysentery, hepatitis, fevers, &c. and yet we cannot charge our memory with a *single* instance in which diseases of the bones were the consequence."—See Johnson's *Med. Chir. Review*, Vol. ii. p. 621.

"It were easy for me to refer to numerous cases similar to the above, but at present this appears to be totally unnecessary; for while rotten bones have long been considered as the legal inheritance of those who have suffered much from venereal disease, I am not aware that a *single instance* has yet been brought forward of mercury producing a similar affection of the bones, when exhibited for the cure of any other disease than syphilis; and until well-marked and unequivocal cases of this kind shall be produced, those who advocate the utility and safety of mercury are not bound to obviate an objection to its use, which has not been proved to exist."

Remarks on a syphilitic Cranium by George Ballingall, M. D. F. R. S. E. Regius Prof. of Military Surgery, &c. &c. &c.—Edinburgh Medical and Chirurgical Transactions, Vol. i.

Here then we have the testimony of two practitioners from the *East* (for I presume the reviewer first quoted to be Dr. Johnson himself) added to mine from the *West* on a point, regarding which it is really difficult to conceive how a doubt could possibly have arisen.

*I must not, however, deny myself the gratification of stating, that the most active arrangements are now in progress, through the zealous influence of our excellent and distinguished Bishop, (independently of the valuable labours of the Moravian missionaries, who receive an annual stipend from the colonial treasury) for spreading moral and religious instruction among the slaves; it is therefore to be hoped that a reformation in this respect, however slowly it may proceed on account of the inveteracy of habit, will at length be effected; more particularly as every encouragement is offered by the proprietors themselves to fidelity in their connexions. The morals of the next class, the coloured inhabitants, have been wonderfully improved within the last fifteen years—an improvement which must, in candour, be ascribed chiefly to the laudable exertions of the Methodists, who have hitherto conducted themselves, in Antigua, with marked propriety.

flect upon the powerful motives which have prompted concealment—the difficulty of obtaining the necessary medicines, even if these people knew how to use them—and the fact, that the sore mouth is the principal object of dislike, it appears to me to be the extreme at once of credulity and scepticism, to suppose that mercury could, by the most remote possibility, have contributed to the existing symptoms.

To the evidence previously adduced of the impotency of mercury in this respect, I have now added strong testimony of the intrinsic power of syphilis to generate the injuries in question to an unlimited extent; but I must not yet quit the subject without giving the outline of a case, which, as far as one case can be permitted to guide our opinions, places beyond all cavil the conspicuous effect of the former in arresting the most threatening assemblage of symptoms, when administered with proper precautions.

A gentleman resident in London having had occasion a few years since to visit the West Indies on business of consequence, proceeded to Falmouth to join the packet.—There he had connexion with a chambermaid; and the product of that connexion was a chancre, discovered during the first week of the voyage. He was an elderly and a married man.—Even the kind of duty in which he was engaged rendered his moral reputation a matter of the last importance; and more especially, as he had heard something of the new opinions regarding syphilis, he determined resolutely to keep his own counsel. He dressed the chancre with cold cream and lint; and having on board with him six calomel pills of a single grain each, which some sapient adviser had directed him to take on his approach to the tropics, as a preparative for the climate, he at once consumed them, at intervals of a day or two between each; without deeming it necessary, however, to abstain from the good cheer which was daily provided for the table. The chancre healed kindly enough, but not before a bubo had appeared in the groin, which he permitted to take its course. It suppurated, and, before he reached Barbadoes, not only broke, but assumed an angry appearance. He was now a miserable man, and mental distress conspired with bodily annoyance to injure his general health. He became sallow and emaciated. The sore gradually got worse; and yet the dread of exposure kept him obstinately silent, till six weeks afterwards, when he arrived in Antigua, and applied to me in despair.

I shall not readily forget how shocked I was when the groin was submitted to my inspection. It presented a phagedenic bubo of the most alarming description, the ulceration being exceedingly deep, and spreading from the whole extent of Poupart's ligament, upwards to the old spot for tapping in ascites, and down the thigh about two inches and a half. The gentleman's strength was materially reduced, and I was literally at a loss in what manner to proceed. The following plan, however, was, after due deliberation, adopted.

In the first place I endeavoured so to regulate his diet as to meet his debilitated condition without fomenting the mischief. Half a drachm of strong mercurial ointment was then directed to be rubbed into the thighs thrice a-day, and five grains of blue pill, with a full dose of opium, to be taken every night at bed time. The sore was carefully bathed at proper intervals with the sol. sulph. cupri. comp. diluted according to the sensation produced. Caddis dipt in the same was laid on it, and the whole covered with an emolient poultice. The bowels proved so irritable that the blue pill was occasionally suspended,—but I need not follow up the minutiæ of the case. Suffice it to say that the requisite caution caused the saturation of the system to be more tardy than was desirable, and on the sixth day from my first visit, not only had no improvement on the sore been made manifest, but incipient ulceration was discovered in the throat. This, as may be imagined, rendered me doubly anxious to arrest the progress of the symptoms, and I accordingly gave, but not without occasional hesitation, a second pill daily, and increased the original quantity of ointment to ℈ *ii.* at each friction. On the fourteenth day, however, the mercurial fetor betrayed itself—the gums began to swell—and it is no exaggeration to assert, that from that moment the aspect of affairs was entirely changed. The throat healed rapidly; the circumference and depth of the horrid ulcer I have described were daily lessened to a degree which delighted the patient and astonished me; and in three months from his landing in Antigua he again embarked, after having gradually regained flesh, strength, and spirits, with no trace of his misfortune but an ugly cicatrix in the groin. The circumstances of this case must speak for themselves. They require no comment from me, except this, that the manner in which I came by the occurrences, which preceded my personal interference, precludes the most distant suspicion of any thing like want of candour, in the detail which I received from my patient.

Here then are "*factis contraria facta.*" I cannot, of course, doubt the accuracy of my own assertions, and I distinctly profess an equal conviction of the correctness of every thing advanced, as the result of observation, on the other side. But the discrepancy is more apparent than real when the *facts* are considered. It is in the *conclusions* alone to be deduced from these facts that I am in any manner opposed to the prevailing opinions. The comparative mildness, for example, of the secondary symptoms, after the non-mercurial treatment, on which every thing hinges, (which symptoms, however, are admitted to have shown themselves in a modified form under the very best management,) I have no hesitation in ascribing to the antiphlogistic regimen, aided by confinement and posture, which being so strenuously enjoined was, doubtless on these occasions, rigidly en-

forced. On the other hand, it does not require preconceived notions to convince me that the complicated ravages which so frequently present themselves, after reiterated courses of mercury, are the result of that miserable practice which still too generally obtains upon Mr. Hunter's authority, of allowing full diet and wine, while the patient makes no sacrifice of business, pleasure or exercise, during the cure of the primary symptoms. When we look back indeed upon the number of cases, in which this system has most probably been pursued, it becomes matter of wonder, not that bad consequences are occasionally met with, but that they have failed to occur in a tenfold ratio; and were I at this moment compelled to select between mercury with free living, and the antiphlogistic regimen with rest, as the irrevocable plan on which I was in future to proceed, I should have little difficulty in deciding upon the latter; but I should do so as the forced choice of two evils, being thoroughly satisfied that a judicious combination of mercury, with diet, confinement, and posture, will best secure that uniform and permanent success which alone can be satisfactory either to my patients or to myself.

In establishing the positions to which I pledged myself at my outset, it only remains for me to refer to the conclusive evidence extracted by Dr. Mason Good,* from the official records to which he had access by permission of the Director General, in proof of the extraordinary hebetude, as he calls it, of the syphilitic action in the West Indies, or, in other words, of the comparative infrequency of venereal cases, and particularly of those under a secondary form. The number indeed of these cases, which appear in the annual returns to have been afforded by the troops throughout the islands for a series of years, falls short of what my own experience would have led me to suppose; but the inference drawn by Dr. Good, is to a certain extent decidedly corroborated by general observation, and I must therefore leave it to acumen more pointed than I can pretend to, to explain away the facts I have adduced, and to reconcile this hebetude of action with the idea, that the unmixed effects of mercury and reputed syphilis bear the slightest resemblance or affinity to each other.

When commencing this communication, I fully intended to enter more at large upon the injurious consequences which really result from the improper use of mercury, than I shall now be able to attempt, on account of the length to which these desultory remarks have already extended. I must therefore confine myself in this place to briefly stating, that these consequences are sufficiently serious to render every prudent man circumspect in the exhibition of so active a remedy.

I am far, very far, from desiring to conceal that the immediate effects of mercury, are now and then appalling. I am only anxious it be at the same time remembered, that these effects are unmasked and *characteristic*, not insidious and lurking. I frankly acknowledge, so shocked and disgusted have I twice or thrice felt myself at witnessing the sufferings of a victim to the outrageous salivations which are occasionally brought on, that I have been tempted, under the impulse of the moment, to resolve that I would abandon the use of calomel forever. But to this acknowledgment must be added, that five minutes reflection sufficed to remind me that the example before me was but *one* opposed to one *thousand*,—that I must not disregard the overwhelming balance which daily experience enabled me to note on the other side. To conclude,—while I hold a resolution not hastily framed, and therefore commended to general adoption, never, without due consideration, to risk the supervention of ptyalism, and, when saturation of the system is really demanded, to proceed with measured doses, at regulated intervals, to as limited an accumulation of the medicine as the urgency of the danger admits; I am yet so conscientiously persuaded of the unrivalled power of this treatment in many of the most fatal diseases, that I must continue to prescribe it fearlessly, even at the peril of my reputation and income; and should I, on that account, be deprived of the confidence of those around me, I must be content to retire from the exercise of a profession, which demands of me the sacrifice of duty at the debasing shrine of self-interest.*

I have now, I believe, amply redeemed the pledge with which I prefaced these remarks, and redeemed it by an appeal to facts and arguments, which, being irrefragable, will, I trust, hold me acquitted of presumption in venturing to treat so confidently of these subjects. I am indeed ashamed to acknowledge the extent of the opportunities I have enjoyed for professional observation, when the glaring disproportion of my attainments can be so readily detected; and, had it been practicable, would gladly have

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* Study of Medicine, Vol. iii. 394.

* "I have found, in the management of the mercurial treatment, a small quantity of mercury sufficient to excite salivation, and to secure safety; and I have known 6000 grains (including the frictions) required to effect the same object. Such is the uncertainty on one hand; such the necessity of the precept I have recommended on the other."

"Are we then, from any vain or unfounded apprehensions of this kind; from reasoning drawn from false premises; or from the suggestions of uninformed or prejudiced minds, to yield up the result of our own frequently reiterated experience—to relinquish the best aid we can bring to the support and relief of our fellow-creatures suffering under direful maladies? Forbid it, humanity! forbid it, truth! forbid it, Heaven!" Chisholm, Manual of Tropical Diseases, 1822.

confided this matter to an abler and more experienced pen. But my views are too unpopular in Edinburgh to be advocated by others, and I have therefore felt it,—I repeat—to be an act of indispensable duty, in return for the indulgent share of confidence awarded me where I practise, to raise my voice against the farther promulgation of doctrines, which have already gone too far in deterring the rising members of the profession from availing themselves of a remedy, which I firmly believe to have been in my hands, under Providence, the means of saving many an estimable life, and which the records of medicine, for the last thirty years, abundantly prove to have been equally successful under the management of others. In expressing myself thus earnestly, I have the satisfaction to reflect, that I stand personally absolved from all sinister motives; for, to vindicate as warmly as I have done the extensive, though circumspect use of mercury, would, even in our climate, be enough to blast the prospects of a man who had yet his character to establish. I have already adverted at some length to this subject in my paper on dry belly-ache; but it may be well to repeat, that it requires a degree of moral courage—of strict and unbending principle which all do not possess,—to enable us to persevere in the use of a remedy, however valuable, whose babbling effects, even in successful cases, will injure our reputation more than the last and worst result of ignorance or mistake. In the one case the coffin is consigned to the grave, and the man, his treatment, and his death, are speedily forgotten. In the other, he lives, but either doubts or forgets the extent of his danger. While a trace of ptyalism remains, he dwells pathetically to his friends on the cruel sufferings he so needlessly endures,—and the loss of one useless tooth perpetuates our mortification and disgrace.*

It is indeed high time that the public be made aware how utterly groundless and untenable these prejudices are found in reality to be, when tried by that scale of experience which alone can be regarded as the test of truth. I am, Gentlemen, your faithful and obedient servant,

A. Musgrave.

From the London Medical Repository and Review.

The Dublin Hospital Reports, and Communications in Medicine and Surgery. Vol. IV.—Cases of Diseases of the Heart, accompanied with Pathological Observations. By R. Adams, A. B. &c.

Mr. Adams gives these cases as the result of his own observation, and divides them into those which affect the coverings of the heart; some that are seated in its muscular structure; and others which take place in the *valves*, or, as he terms them, "the auricular and arterial openings of the ventricles."

The *pericardium* is the seat of certain diseases, and these may take place either in the inner or serous, or in the outer, fibrous membrane of which it is composed. Inflammation may take place in the former, as a secondary consequence of a similar affection of the pleura, which it resembles in its structure and use; but from the interposition of the outer or fibrous membrane of the pericardium between these, it is possible that extension of inflammation, from the one serous membrane to the other, is interrupted, and rendered less frequent than it would otherwise be. The existence of this affection, however, in both is perhaps not so uncommon as has been supposed. Mr. Adams has seen it extending (in consequence of external violence) to the serous membrane of the heart itself, involving all the intermediate tissues, from the integuments covering the external surface of the chest, to the enveloping membrane of the organ now mentioned.

This writer adds to the few cases of *ossification* of the fibrous membrane *of the pericardium* already on record, one which was detected in opening the body of a man who had perished by exposure to the fumes of charcoal. All the viscera, excepting the heart, were sound.

Pericarditis is seated in the serous membrane.

"The general signs by which the disease may be recognised are exceedingly equivocal, and much requires to be done by the physician to clear the obscurity. I have been frequently called upon to examine the bodies of persons supposed to have died of diseases of the lungs or liver; and I have found pericarditis the true and single source of death, although during the previous illness the heart was never suspected to be the seat of a fatal affection."

A case of a chronic nature is added, which terminated fatally; throughout the progress of which, the mistake prevailed that it was a phthisical disease—the seat of the disorder being supposed to be in the liver—which organ, on opening the body, was ascertained to be perfectly sound; although, from the pressure of a distended pericardium, it had been pushed forward so as to convey the belief that it was preternaturally enlarged.

Mr. Adams has seen many unequivocal cases of metastasis of *rheumatic* inflammation to the heart; and records one in particular, in which an acute attack of this disease left the synovial membranes of the extremities, to perpetrate its mischief in the serous membrane of the vital organ. The subject was a girl, only six years of age. The case we must altogether omit; but the pathological argument which follows, we present at length.

"It would appear that the distinction between simple rheumatism of the heart and the dangerous case of rheumatic inflammation, has not been sufficiently insisted upon. In

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* Need I point out with what additional force these remarks apply to cases in which ladies are concerned?

the one case the organ is simply, and often but transiently affected, just as any other muscle is,—the person has perhaps been affected with rheumatic pains in the loins, with but little fever: these, suddenly leaving this region, run to the diaphragm, and cause a temporary affection of the breathing, with what the patient calls spasms in the chest. The countenance undergoes sudden changes; there are at such moments strong beats of the heart, and intermissions of the pulse sensible to the patient; and in females I have sometimes seen such attacks end in an hysteric paroxysm, and all symptoms subside when the lumber pains returned. In such cases, the tongue is somewhat foul; the skin is frequently relaxed by profuse perspiration, and the urine is remarkably turbid; but the pulse has neither the frequency, hardness, nor peculiar vibratory feel that it has in the other and more dangerous case: the countenance does not betray that anxiety, or, as it is denominated by some authors, that anguish, which it almost uniformly expresses when the membranes of the heart are affected with acute inflammation, from whatsoever cause proceeding. Although simple rheumatism of the muscular structure of the heart may occasionally pass on to carditis, or to an inflammatory affection of the serous membrane of the heart, there cannot be a doubt that the two cases are very distinct from each other, and require treatment so different as to make it highly important for the practitioner to be aware of the risk of mistaking the comparatively simple case of rheumatism of the heart, for the far more urgent and dangerous one of rheumatic inflammation of its serous membrane. The latter disease I have usually seen in children, and persons about and under the age of puberty, in whom metastasis seems much more liable to occur than in those more advanced in life; and the sudden translation of the rheumatic inflammation to the heart has usually occurred where the synovial system of the extremities was the original seat of the disease: when the muscles have been affected with acute rheumatism, metastasis to the heart has not, to my knowledge, been frequent, although I have seen the diaphragm affected by it in such a manner as to excite, apprehensions, for a time, that the former more important organ was implicated. There seems to be a greater disposition in the acute inflammation to pass from the synovial membranes to the serous, than to any other tissues, which is not so much to be wondered at, when their great similarity of structure, appearances, and functions, is considered."

Mr. Adams, from these cases of *rheumatic* metastasis is led to conjecture (for he does not profess to do more,) that *gout* also attacks this organ in an analogous manner. This sort of inflammation, however, seems not to have been much the subject of observation. Erysipelas, prone as we know it to be to change its seat, often affects the heart.

Among the morbid changes that are met with in the *muscular* structure of the heart, we have to enumerate, increase of thickness in the parietes, and enlargement of the cavities: both these deviations may be co-existent; and although the enlargement, &c. are commonly confined to one auricle or one ventricle, sometimes all the cavities are preternaturally distended, and the whole volume of the heart greatly increased, without any valvular disease. Cases of this nature, like diseases of the heart in general, commonly terminate in dropsy; but sometimes the progress of affairs is cut short by an apoplectic attack. Mr. Adams, in a case of this nature, found, upon dissection, that the heart was converted into fat.

The muscular structure of the heart is liable to rupture and to aneurism, by the walls of the ventricle (in which it occurs) giving way, from some cause not sufficiently known. At last the sac bursts, and instant death is generally the consequence. The cordæ tendineæ sometimes give way, and by so doing present a case which is beyond the reach of art.

We come now to "the arterial and auricular openings of the ventricles," which is a more correct method of denominating the parts in question than by the term valves; inasmuch as these are an apparatus placed in the said openings, rather than the openings themselves. Mr. A. describes them as liable to contractions, invariably combined with some cartilaginous or osseous depositions. The consequence of this morbid state is not only derangement in the circulatory, but also of the general system. Our author brings his own observation, as well as that of others, to qualify the assertion of Bichât, that the right side of the heart is never the seat of these concretions or depositions. The left side of the heart, however, is not only more frequently the seat of the contraction in question than the right, but the disease itself is probably of more frequent occurrence than is commonly imagined. It takes place at all periods of life, and as frequently in the female as in the male, though the sex is comparatively exempt from diseases of the heart and vascular system. The progress of this *auriculo-ventricular* contraction, until the opening between the cavities is reduced to a mere fissure, is gradual; and the patient sinks under a long train of suffering. The history, however, of two cases is given, in which the patients were carried off suddenly and early —one by apoplexy, and the other by epilepsy—both brought on by the difficult transmission of the blood through the left side of the heart. The patients were both females, about forty-five years of age. "In both," says the reporter, "we found the mitral valve and auriculo-ventricular opening in a state nearly similar, although the effects of this organic change was so dissimilar."

There is a good description of the changes found in the diseased parts after a fatal termination, for which we regret that we cannot

find room. We must, however, give one passage from this very able paper, of a physiological description:—

"Before I conclude these observations on the healthy and deranged action of the auriculo-ventricular valves, I may remark, that the mitral valve so perfectly closes the aperture of communication between the left auricle and ventricle, that in the natural state no reflux whatever is admitted: this, so useful at the right side of the heart, would have been not only useless, but injurious, at the left side of the organ, as we find the general arterial system at all times equally ready to receive the blood during the systole of the left ventricle; and if the mitral valve did not perfectly close the left auriculo-ventricular aperture, a great deal of the force of the aortic ventricle would be wasted, whereby it would be incapable of moving the mass of blood which was destined to fill the arterial system. Pathologists, in looking to the different nature of the lining membrane at the two sides of the heart, as a means of explaining the greater liability of the left side to disease, have perhaps too much overlooked this circumstance, that while, from the unyielding nature of the mitral valve, all reflux into the auricle is prevented from this very cause, which renders it effective in the circulation, it is exposed to more frequent injury—from which organic disease may arise, and the ventricle to which it belongs become more liable to be ruptured by its own efforts.

"However we attempt to account for it, the fact is undeniable, that rupture of the right side of the heart, and injuries and diseases of the tricuspidal valve, are as rarely as such accidents and lesions of the left side of the organ are frequently to be met with. I shall conclude the observations I had to make on the morbid contraction of the left auriculo-ventricular opening, by considering how far this obstruction in the heart can account for some of the other symptoms of that disease.

"The brain, the lungs, and the liver, more or less, feel the injurious effects of this obstruction to the free circulation of the blood through the left side of the heart; the former is oppressed by an undue quantity of blood, the quality of which is ill-suited to the function of the organ; hence the vertigo, and sometimes the sudden termination, by apoplexy or epilepsy, already alluded to. The lungs and the liver are better able to accommodate themselves to this local plethora, but their functions are more or less disturbed. Hence the dyspnœa, hæmoptysis, deranged digestion, and jaundice, which I have remarked in many instances. Lastly, the general capillary system suffers from a double cause; the circulation of blood through these vessels must be languid, because the impulse *à tergo*, which they can derive only from the left ventricle, is weak,—while there are numerous obstructions in front, but all arising from the one cause, namely, the contraction of the left auriculo-ventricular aperture. These vessels are probably relieved of their plethora through the exhalants, which open on the cellular membrane and serous surfaces,—hence the anasarca first, the ascites and hydrothorax last, the constant attendants on the final stages of this disease."

The remaining disorders described and illustrated by cases relate to the ossification of the valves of the aorta, to contraction of the *arterial* opening of the left ventricle, and to complete ossification of the coronary arteries.

Observations upon the Origin and Latent Period of Fever. By Henry Marsh, A.B., M.D., M.R.I.A., Assistant Physician to Steevens's Hospital, Physician to the Institution for the Diseases of Children, &c.—Although the period which elapses between the first impression of the efficient causes of fever and the full development of febrile action, has been too much and most undeservedly overlooked by writers and practitioners, yet it has not altogether been neglected. On the contrary, some few have considered this subject maturely and closely, both in their writings and in their lectures; and have practised what their views led them to, respecting it, most efficiently and felicitously. We shall not refer our author to those writers who have considered the present subject in a similar manner to himself. Nor is it very material whether or no his erudition have made him acquainted with them. The author has very properly observed for himself; and what he adduces in the present paper is a powerful support to the opinions and statements of those who have gone before him in the same path of close observation and pathological research.

Dr. Marsh proposes to consider in this communication—"first, the manner in which febrile disease is produced; secondly, the symptoms which manifest themselves during the latent period; thirdly, the treatment adapted to this stage of disease." These are important and not uninteresting topics; and, considering the limits within which the author has been restrained, they may be considered as, in some respects, very satisfactorily discussed. In its more important and wider relations, however, the present respectable attempt of our author can only be viewed as a contribution to that general information which we already possess, and not as a complete exposition of that state of system produced by the efficient, and, in many instances, co-efficient causes of fever; which state of system is of such importance as to lead to all the subsequent phenomena on which the name of fever has been imposed.

The first subject which Dr. Marsh enters upon is one confessedly of very great difficulty; and we do not find that he has diminished that difficulty, or grappled with it in earnest. Many of the positions, however, which he has taken up are evidently good; and his facts are important, although similar ones have always occurred to observing prac-

titioners, and have been duly valued by many, who, like himself, have made their observations subjects of reflection. Dr. Marsh commences with the statement of various cases—many of them interesting.

"1. A female named Doolan, aged twenty-four years, admitted into one of Dr. Crampton's fever wards in the Whitworth Hospital, on the 24th of November, 1817, gave the following account of the manner in which she had taken fever. The statement came from her voluntarily, and not in reply to any question put to her; and appeared to be the result of a strong mental impression which she seemed anxious to communicate. On the Wednesday preceding the day of her admission, a person not yet recovered from fever came into the house where she then was, and sat down close beside her. She became immediately sensible of a heavy disagreeable odour arising from the person of this individual, which disgusted her exceedingly; she was instantly effected with headach, and became so weak that with difficulty she could move her limbs or stand. That very evening, long-continued rigours came on, followed by heat, to which succeeded perspiration; she spent a restless night; slept in an agitated manner, and awoke unrefreshed. She was admitted into the hospital, labouring under the ordinary symptoms of fever in an intense degree; she complained of severe headach, great prostration of strength, and was covered with large and florid petechiæ: her fever was tedious, and her recovery slow.

"2. On Wednesday, the 17th of June, 1818, Nurse Smyth, in one of the wards of the Richmond Penitentiary, administered an enema to a patient labouring under typhus fever; while she was engaged in this duty, the bowels of the patient were suddenly evacuated; the smell issuing from the fæces produced immediate and most intense headach, and her strength, at the same time, was so completely exhausted that she had neither power to move nor to support herself on her limbs. In a few hours afterwards she was seized with a severe rigour; but being placed close to a large fire she became warm, yet not without occasional sensations of chilness, feeling as if some cold substance moved slowly along her back. Typhus fever, of a severe character, yet presenting no unusual symptoms, supervened. The patient to whom the enema had been administered died in two days afterwards, having exhibited the worst characters of petechial fever.

"3. On the 25th of June, 1818, Nurse Hayes, labouring at the time under a slight catarrhal affection, applied leeches to a person in the last stage of typhus, whose body was covered with purple petechiæ. While she was leaning closely over the patient, in the execution of this duty, he coughed, and the smell of his breath greatly disgusted her. Shortly afterwards she had a rigour, and felt as if cold water descended along the spine. For several hours subsequently there was an alternation of heat and chilness. She took an antimonial emetic, and perspired copiously: the fever which ensued was mild."

The following cases occurred in the persons of medical men, and are remarkably illustrative of the *modus operandi* of the contagious miasm, as well as of its effects.

"8. Dr. Crawford, one of my fellow-labourers at the hospital of the House of Industry, during the prevalence of the epidemic fever of 1817 and 1818, gives, in his Thesis, the following account of the manner in which he himself became affected with fever: —'On entering a ward very early in the morning, where lay a woman labouring under the worst description of fever, as I approached the bed, I perceived a disagreeable fetor, and was instantaneously struck with headach and nausea. In two days afterwards I was seized with a fever of the same character.'"

"9. Within a few hours after Dr. James Clarke had visited a bad case of typhus, which terminated fatally, he met Dr. Cleghorn in the street, and said, I have got a *fugh** to day, at the hospital, which I cannot get rid of. He dined at Dr. Ferguson's and ate heartily. In the evening, not finding himself quite well, he took six grains of calomel. On the next day he sat down to dinner at his father's, but could eat nothing. His father advised him to go to bed, and take some medicine. This was on Sunday. On Monday Dr. Cleghorn saw him again; when he expressed his extreme sense of weakness by saying that his legs were completely knocked from under him, and his strength entirely gone. On the eleventh day of the fever he died.

"10. Dr. Waring, on visiting a patient labouring under typhus fever, found the room so close that he instantly broke a pane of glass in the window. On his return home, he told Mrs. Waring that he had got a knock on the head which all the college of physicians could not cure. Dr. Cleghorn saw him on the next day, when he repeated to him the same words. He had been engaged in lecturing for Dr. Cleghorn during the preceding days, and had very much overworked himself. The fever thus produced was fatal.

"11. On the 13th of August, 1822, Dr. Parkinson, at the time rather weak and delicate, and affected with a slight bowel complaint, visited a person labouring under a fever, who resided in a small low apartment, wholly destitute of ventilation. While Dr. Parkinson stood close to the bed, the patient suddenly sat up. Having perceived a most disagreeable smell, he observed at the instant that he had caught the infection. He rushed to the window, and forced out a pane of glass. During the next day he made no complaint, but appeared dull and out of spirits, was flushed, and said that he felt very cold. At night he became hot and restless. On the

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* "This word in Scotland means a heavy disagreeable smell."

next day (10th) the pain in his head was so severe that he could not leave his bed. On the 16th he was rather better—he had been relieved by medicine—the headach had abated, and he was able to leave his room. On the night of the same day (16) the headach returned with excessive violence; and on the 20th he died.

"12. *From Barker and Cheyne's Report, Vol. I. p.* 472. 'A child, on being discharged from a fever hospital, was admitted into a charitable institution, and brought with her a small bundle of clothes, which had not been disinfected. The bundle was opened by a woman resident in the institution, who perceived an exceedingly disagreeable odour to issue from it. In a few minutes the woman became ill, and her stomach sickened; which proved the beginning of a fever such as was prevalent. Her's was the first case of the epidemic in the institution.' "

Several other cases, together with his own, are detailed by the author; but he does not always mention the length of time between the exposure to the efficient cause, and the full irruption of its effects. From numerous similar instances which have come under our own observation, we believe that the period which elapses between exposure to the miasm of contagious fever and the full explosion of the disease, is of very various duration,—from a few hours to many days. In the majority of cases recorded by Dr. Marsh, a sensation of a noxious impression on the system was immediate, as it usually is, and contemporaneous with exposure to the exciting cause; but the development of the fever seldom was under several hours. In nearly all the cases recorded by the author, the disease supervened within forty-eight hours after the impression of the contagious miasm. We have seen the fever fully formed within twelve hours from exposure; and we have also seen fifteen days elapse before the appearance of rigours. The last case illustrating this latter fact which came before us, was that of a young lady residing a few miles from London. She went to town to see a friend confined with continued fever of a typhoid character:—there was low muttering delirium, great prostration of strength, &c. Upon entering the apartment of her sick friend, and holding forward her head for the purpose of recognition, the odour of the patient's person and bed clothes was offensive to her; she felt slight nausea and sinking at the epigastrium, to which supervened headach, formication, coldness along the spine, &c. and weakness of the limbs, with weight in the loins, general debility, and loss of appetite. These symptoms, with a pale, sickly, and muddy countenance, continued, and on the ninth day increased. She then had leipothymia, attended with chills, and slight rigours, followed by intense pain in the head. Upon the occurrence of these last symptoms, the writer of this was sent for. The stage of reaction was then fully formed. As many leeches as could be applied around the occiput, behind the ears, and upon the temples, were ordered; the hair was cut off; cold applications were constantly employed, and other active measures were recommended. The fever went its course favourably, but did not terminate until the twenty-first day, when an evident crisis supervened. This case of fever was of the same kind with that from which it was propagated, but less severe in its character, probably owing to the former having been more left to nature. Similar instances have occurred to us; but we do not recollect, at present, of any case wherein the full supervention of fever, proceeding only from contagion, was longer than fifteen days from the last impression of its cause: but we have seen every intermediate period elapse, down to ten or twelve hours, and have thought that we could account for the marked difference in the duration of the formative stage of the disease, as the cases presented themselves to our notice, by the circumstances of the patients at the time of exposure, and the concentration of the efficient cause. Although we have said that fifteen days was the longest period which we have seen elapse from the last impression of contagion till rigours supervened, yet we believe that a longer time may pass. We think, however, that in many of the instances which have been seen of the longer duration of the formative stage of contagious fever, the patients have been so circumstanced as to render it very doubtful at what time the actual infection was caught; and even in cases where the exposure to contagion was satisfactorily proved to have been much longer than the time now mentioned before disease appeared, it is doubtful whether or no such exposure had farther influence upon the system than to predispose it to the operation of whatever causes of fever may have acted upon the body for some time afterwards,—the subsequent action having been the efficient cause, without which the previous exposure to contagion might have been unproductive of disease.

The cases adduced by the author in illustration of the latent period of fever, are altogether those of fever proceeding from contagion. Of the phenomena which supervene from exposure to other causes of fever, as to malaria for instance, and the full development of disease, with the different periods which elapse between the operation of the exciting cause and the full production of its effects, he has made but little mention. In cases of fever proceeding from the impression of malaria, cold, &c. the duration of the formative stage is very various, and often very long. Into this subject, however, it is not our intention to enter.

With respect to the *modus operandi* of the contagious miasm, we perfectly agree with the author in stating its immediate impression to be upon the nervous system; but we do not concur with him when he says, that it is the cerebral nerves and brain, or, in other words, the cerebro-spinal system of nerves,

upon which the noxious impression is first made. From every consideration which we can pay the subject, we have been long led to believe, that the morbific cause first acts upon the ganglionic system of nerves,—the most generally connected with the other systems and organs of any tissue of the body. The effect produced by the contagious miasm on the olfactory nerves, which are intimately related to this system; the immediate influence which is produced upon the pulse, the stomach, and through every part of the body; the sense of sinking and distress at the epigastrium, &c. are all proofs that the miasm, during its passage into the lungs, and along the air passages, influences the condition of the ganglial nerves. The circumstance of these nerves being the only ones which are ramified on the blood-vessels, particularly those of the internal organs, serves to explain the early effects produced upon the circulatory organs, and upon the blood itself, by the causes of fever. During the reign of the humoural doctrines the contagious miasm was believed to be received into the blood, and its action upon the system was explained conformably to that view.

From the days of Hoffmann, the more immediate impression of the efficient causes of fever has been generally referred to the nervous system; but as pathologists, until lately, have paid but little attention to the appropriate functions of the different orders of nerves distributed throughout the body, and have reasoned respecting them as if the offices of all were alike, and as if what we know respecting the functions of the cerebro-spinal order of nerves should be also imputed to the ganglial nerves; so the doctrine of Hoffmann and his followers, having reference merely to the conditions and functions of the former, which are inadequate to the explanation of the early, more advanced phenomena of fever, has lately been considered untenable; and the opinions formerly entertained regarding the direct operation of the agents of fever upon the blood itself, have been revived, if indeed it can be said that they were altogether laid aside by many pathologists of this and the previous age. We think that the supporters of both systems have been too exclusive, and that truth would have been sooner found if she had been sought after, at the same time, by more routes than one. The functions of the ganglial order of nerves having been viewed as identical with those of the cerebro-spinal order, and the manifestations resulting from impressions made upon the latter being so generally confounded with those induced upon the former, together with the impossibility of explaining the immediate and consequent effects of the efficient causes of fever, conformably with what we know of the relations, connexions, and offices of the cerebro-spinal order of nerves, have all combined to render the opinions of Hoffmann and his followers of difficult tenure; whilst the more visible effects produced upon the sanguiferous system have given the humoural doctrine a certain degree of credit, and have led many to view the changes induced in this system as earlier in the procession of morbid phenomena than they actually are, and as of greater importance than they seem to us to be. In a word, had investigators of this point of pathology considered the minute organization of the ganglionic nerves; their difference, in organization and distribution, from those subjected to volition; their intimate relation to the sanguiferous system; the circumstance of the heart and blood-vessels being supplied only with these nerves; the fact that the internal viscera receive, comparatively speaking, but few nerves beside them; the manner in which they combine in one circle the various functions upon which life depends, whilst they seem dominant of the various actions which individual organs perform,—they would have perceived, that it could be only upon this system, and through the avenue of the organs upon which these nerves are ramified, or to which they are intimately related, that the causes of fever can make their first impression; whilst they would perceive also, that the very intimate connexion existing between the ganglionic nerves, the heart, and the arteries, upon which they are copiously ramified, must necessarily occasion the extension of morbid impressions from the one to the other; and that the efficient causes of fever, making their immediate invasion upon the system of ganglionic nerves, would so change the conditions of this system, as to influence the circulating organs, and even the state of the whole circulating and secreted fluids of the body. Thus it will be seen, that while we conceive the nervous system to be the part immediately acted upon by the agents of fever, we consider that this action is chiefly exerted upon the nerves of organic life—the ganglial nerves;—that owing to these nerves being principally distributed to the sanguiferous system and internal viscera, this system and these viscera are influenced through them; and that the blood itself and all the secretions become changed in consequence of the morbid impression first made on the nerves upon which the circulation and the secretions depend. Thus, while we view the nervous system as the one immediately affected, we consider the circulating and secreting organs as those subsequently deranged; and that the disorder of the one generally tends to perpetuate that of the other. Hence it will appear, that the nervous pathology is true to a great extent, whilst the humoural doctrine is also true in part; particularly as far as concerns these secondary effects which usually supervene during the progress of fever.

With regard to the second head into which the author proposed to divide his subject, namely "*the symptoms which manifest themselves during the latent period of fever,*" we cannot find that he has entered upon it with that fulness and precision which we expected, and which the subject requires. To be

sure, the expression, if not altogether an Hibernicism, could scarcely, at least, have warranted our expectation; for we cannot justly consider that which is latent to be manifested by symptoms. The truth is, that the "latent period of fever" is altogether a misnomer, for this stage of the disease is by no means latent to the attentive observer. At any rate, the name imposed by our author is certainly not happy; and we would therefore presume to recommend some other. Hildenbrand, who has treated of this stage of fevers more copiously and correctly than any other writer with whom we are acquainted, and given a very accurate view of the symptoms following exposure to the exciting cause, has divided the whole progress of fever into seven periods, or stages. He states the first, or *premonitory* stage, to embrace the period which elapses between the first impression of the exciting cause, and the supervention of chills, rigours, or horripilation; and has given a lucid exposition of the symptoms and progress of this stage, which he says is always evident to both patient and practitioner, if at all attended to. The time which elapses from the supervention of chills or rigours, to the commencement of reaction, he terms the stage of invasion. But we cannot follow this most experienced writer through the other stages into which he divides the disease.

Dr. Copland, in a most comprehensive course of lectures on the practice of medicine, given in 1825 and 1826, fully investigated the early stages of fever, and divided the disease into six distinct periods.

The *first* period he denominates "precursory," which is the same with the "*stadium oportunitatis*," of Hildenbrand, and the "latent period" of Dr. Marsh. The *second* he calls the period of "invasion," or the "formative" stage of the disease, being the period whence the duration of the malady is reckoned, and the critical days in contagious fevers are calculated. The *third* period he names that of "excitement," or reaction, which he views as consisting, 1st, of an incremental excitement, and, 2d, of stationary excitement. The *fourth* is the period of "crisis." The *fifth* the stage of "decrement, decline, or exhaustion;" and the *sixth* the period of "convalescence," which, Dr. Copland thinks, ought to be always treated as a stage of the disease, for various pathological reasons, as well as on account of the future health of the patient. As far as we can recollect, this physician, who has viewed the phenomena of fevers generally with great precision and closeness, considers that the efficient or exciting causes of fever make their immediate impression upon the nervous system of organic life; and that, owing to the connexions and relations of this part of the nervous system, the circulating and secreting organs are deranged early in the disease, and the whole organization and circulation become, to a greater or less extent, involved in disorder, more particularly in those fevers which originate in, or are propagated by contagion.

The concluding part of Dr. Marsh's paper is upon the treatment of the "latent period of fever;" but here we find nothing further than what is to be learned from the best writers on febrile diseases.

From the London Medical and Physical Journal.

PULMONARY ABSCESS.

Cases of Peripneumonic Abscess of the Lungs; with some Remarks. By W. F. Chambers, M. D. Physician to St. George's Hospital.

We are indebted to the pathologists of the present age for our knowledge of the fact that suppuration of the lungs, consequent on simple inflammation, is a disease of exceedingly rare occurrence. Dr. Duncan, sen. in his Treatise on Consumption, published in 1813, makes apostema of the lungs one of the species of phthisis pulmonalis; and, although he states that it is a less frequent modification of the disease than that which arises from bronchial inflammation or tuberculous concretion, he does not seem to have been fully impressed with its very great comparative rarity; nor, indeed, am I aware that any writer before Laennec has placed this matter in a just point of view.

The truth is that what has long been known with reference to another organ, the liver, is almost equally applicable to the lungs. I mean that, as in the liver, it is infinitely more common, in this country at least, to find that inflammatory action has proceeded just so far as to cause the deposit of adhesive or indurating matter in its substance, than that it has been intense enough to induce suppuration; so in the lungs, when inflammation takes place, in a large majority of cases, it stops short of suppuration, producing, for the most part, induration or hepatisation of the affected portion of the viscus. Hence, then, it is easy to account for the comparative rarity of apostematous phthisis. For, as it will be allowed that tuberculation of the lungs is a much more frequent affection than their simple phlegmonous inflammation, and as we have seen also that, even when the latter occurs, it is very seldom of such intensity as to destroy the affected part by suppuration, whilst the former almost invariably leads to the formation of vomica; it follows, of course, that phthisis consequent on peripneumonic suppuration must be a much less frequent disease than that which arises from the maturation of tubercles in the lungs.

I may be allowed to say here, also, that, during the time I have been attached to St. George's Hospital (a term of nearly fifteen years,) my own experience justifies this conclusion. Within the above mentioned period, the number of deaths from pulmonary disease has amounted to above 600. The bodies of all these persons, with a very few exceptions, have been carefully examined after death, and amongst them, according to the best of my recollection, there have been found only three cases of pure phlegmonous abscess in

the lungs.* During this period also, many individuals, with diseases of the lungs, have left the hospital, after receiving various degrees of relief. Amongst these, three or four instances of pulmonary apostema have perfectly recovered.

We may say then, that, out of many hundred cases of pulmonary disease, only six or seven have occurred of true phlegmonous abscess; of which it may be remarked, that at least one-half have terminated favourably.

Having premised these observations, I will now relate two cases of the disease in question, taken from the journals of the hospital. The first of these, it will be seen, terminated in recovery. The second died in the house, and afforded us an opportunity of examining the diseased organ; the appearances of which verified the opinion which the previous symptoms had suggested respecting the true nature of the malady, and rendered it probable that we were right also with regard to the complaint of the first-mentioned individual who recovered, inasmuch as the features of the disease were the same in both.

Case I.—Francis Brennin, aged thirty-four, labourer, of St. James's parish, admitted January 5th, 1825, of a muddy, sallow complexion, and much emaciated. He complains of difficulty of breathing, with heavy pain in the upper part of the left side of the thorax, which is less expansible than the right; he has a very troublesome cough, with a copious expectoration of a brownish yellow colour and *most offensive smell*, tinged with dark-coloured blood; *his breath also has a putrid smell*, which can be perceived at some distance. He cannot lie on either side, on account of his cough; and he complains besides of a dull pain in his head. He has no regular hectic, but has occasional shiverings, with flushings, followed by perspiration. Pulse 130, small; skin cool; tongue of a livid colour, with a smooth, clean, moist, surface; bowels open; urine high coloured; appetite indifferent.

He says that some months ago he received a blow on his left side, ever since which he has suffered more or less aching in the part, but that within the last month he has been attacked with severe pain there, accompanied by fever, cough, and headach, and subsequently with expectoration. He states that he has been treated with cupping and blisters, which have considerably diminished the severity of the pain.

He was now ordered to be placed on milk-diet, and to take the following medicines:—Haust. Salin. cum Mucilag. Acaciæ ʒj.; Tinct. Digital. m. v.; Vin. Ipecac. m. xv. sextâ quâque horâ.—Extr. Colocynth. comp., Extr. Lactucæ sativæ, āā gr. v. omni nocte.

Under this treatment he daily improved until the 21st. The report on that day is as follows:—Cough diminished; expectoration less in quantity, but still fetid; less pain in the side; pulse natural; skin cool; bowels regular. He still sweats occasionally at night.

Mist. Ferri comp. ℥j.; Mist. Camphoræ ℥ ss. ter die.—Repr. pilulæ.—(Meat daily, with a pint of porter.)

This treatment was continued with little variation until the 14th of March. He had then gained flesh, he coughed very little; his expectoration was of a lighter colour, had scarcely any smell, and was much diminished in quantity. His pulse, tongue, skin, bowels and urine, were in a natural state; but still the left side of the thorax was not perfectly expanded by inspiration. He was now directed to attend as an out-patient until the autumn, when I discharged him, perfectly restored to health. It was remarkable that the left lung at last entirely regained its expansibility.

I will reserve the few remarks which are suggested by the history of this case until I have related another instance of the same disease which terminated unfavourably, and afforded us an opportunity of examining its seat after death.

John Hayward, aged forty-five, labourer, of St. James's parish, admitted October 4th, 1826, of a sallow complexion, much emaciated and very weak. He complains of difficulty of breathing, cough and expectoration of considerable quantities of foul, *highly offensive*, purulent matter, of a dark yellow colour, tinged in part with blood. *His breath is very fetid;* he has pain in his chest on both sides, which is aggravated by any attempt to make a deep inspiration. He lies generally on his back. Pulse 110, small, but somewhat sharp; skin hot; tongue red at the edges, furred in the middle; bowels open; urine high-coloured; appetite indifferent.

He says he was attacked eleven weeks ago with symptoms which he describes as those of peripneumony, but was not bled for them. These subsided in a fortnight, and were followed by the expectoration above described, and the other present symptoms.

He was placed on fever diet, and ordered to lose eight ounces of blood from the arm,

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* In this number, I do not include those appearances of circumscribed abscess discovered by dissection in persons who have died after severe injury of the head, or any other great disturbance of the nervous system, which sometimes occur not only in the lungs, but in the liver, in the spleen, and, in fact, in almost all glandular and cellular parts of the body. These are to be placed in the same class as the collections of albuminous matter in the serous cavities, which are frequently found after death, under the circumstances just mentioned. All of these, in spite of their similarity to the results of inflammation, owe their origin to a process essentially distinct from common phlegmonous action. They are in some way the consequence of the total disorder subsisting in the nervous and secretory systems, and, when they appear in this manner in the lungs, must not be confounded either with the effects of ordinary peripneumony or of tuberculation.

and to take the following medicines:—Haust. Salin. cum Liq. Antim. Tartar. m. xvj. sextâ quâque horâ.—Magnes. Sulphat. ℥ ss. cràs.

October 5th.—Blood cupped and buffy. Pain relieved; pulse eighty, soft; skin cooler; tongue clean; cough less frequent; bowels open.

Repetantur medicamenta.

He remained nearly in this state until the 8th, when a bowel-complaint occurred. This was allayed by small doses of Dover's power; but, on the night of the 14th, his strength seemed to fail him altogether. He was ordered now to take from time to time small quantities of wine or brandy, mixed with warm water. He did not, however, rally, but died on the following day.

The body was examined on the 16th, and presented the following appearances of disease.

The lower lobe of the left lung was somewhat indurated towards the posterior part. In the right side, there were a few ounces of opaque serum in the pleura. The apex of this lung was enveloped in thickened pleura, which adhered closely at that part to the contiguous pleura costalis. On cutting into the lung, two cavities, each about the size of a small orange, were brought into view; one in the superior part of the upper lobe, the other in the centre of the middle lobe. The first was lined with a loose sloughy substance, and filled with dark yellow fetid matter; the second was empty, from the pus and sloughy matter having been expectorated through the bronchial tubes, which were seen communicating with it, and was lined with a very thin membrane of a dark colour. The rest of the lung was somewhat compressed by the fluid in the pleura, and particularly at the lower part; whilst, in the neighbourhood of the abscesses, it was slightly indurated, or hepatised; but there was no appearance of tuberculation in either lung.

There were no appearances of disease in the abdomen, except an inconsiderable enlargement of a few of the mesenteric glands.

These two cases are, I think, fair specimens of the disease of which we are speaking, and show that its symptoms are pretty clearly distinguishable from those which characterize ordinary tuberculous consumption.

If, indeed, we can ascertain with accuracy the early symptoms of the disease, we shall have little difficulty in fixing on its true nature. This, however, is not always in our power, either from want of observation and intelligence in the patient himself, (especially when he happens to be of the uneducated class of the community,) or else from the insidiousness of true pulmonary consumption, whose earliest approaches are often overlooked, and its commencement dated from some accidental inflammatory attack in the lungs or pleura, which may be in fact altogether a secondary affection.

In this difficulty with respect to the history of the complaint, the symptoms, as observed in the two cases just described, will be generally decisive of its real character.

In the first place, the appearance and the smell of the expectoration are totally different from those which belong to the sputa of tuberculous consumption.

In apostema of the lungs, the expectoration is of a brownish or greenish yellow colour, and has an intense odour of putrefaction. This colour was correctly compared, in my hearing, by a physician of considerable experience, particularly in diseases of the lungs, to that of "rotten eggs;" an appearance in the expectoration which, he said, he had long been accustomed to consider, when joined with fetor, as holding out a more favourable prospect of recovery to the patient than that of ordinary purulent matter. This appearance is obviously owing to the mixture of pus and blood with the particles of sloughy lung, which form the parietes of such abscesses: to the latter also is, of course, to be attributed the offensive odour of the sputa. It is not to be wondered at, under such circumstances, that the breath of the individual should be of an almost intolerable smell.

It may be remarked here, that, in cases which terminate favourably, the dark colour of the expectoration disappears, and its fetor decreases gradually, as the sloughy parietes of the cavity are, from time to time, ejected by coughing.

It is scarcely necessary to point out at length the difference between this kind of expectoration and the white or yellowish inodorous sputa, occasionally streaked with more or less scarlet blood, which characterize tuberculous phthisis. I have said that the latter are generally inodorous: if they be otherwise at any time, it may be considered an accidental occurrence, arising from the confinement of the matter for an unusually long period in a vomica, and they even then retain their ordinary appearance; and are very unlike, in this respect, to the expectoration I have endeavoured to describe as belonging to peripneumonic abscess.

The next distinctive mark of this disease which I will mention is, if I may so speak, a negative one: it is the absence of regular hectic fever, after the abscess is fairly opened into the air-tubes.

In the first of the cases related above, the shiverings, flushings, and perspirations were slight in themselves, and took place only occasionally; whilst, in the second, there was no hectic sweating at all.

Besides this, we may remark that the clear complexion and bright colour, which so often attend tuberculous affection, is absent in cases of apostema of the lungs, in which the complexion is characterized, for the most part, by a dull muddy sallowness.

I am well aware here, also, that there are instances even of true tuberculous consumption in which the complexion is thick and bloated, or in which hectic fever is not observable. In truth, every practitioner must have now and then seen tuberculous con-

sumption proceeding to a fatal termination, without any elevation of the pulse above its natural standard of frequency, or any evident increase of the temperature of the skin. These, however, are exceptions to the general rule, and, when they present themselves to us in practice, are less fertile sources of perplexity than they may at first sight appear to be; inasmuch as our diagnosis is to be at all times founded, not on single symptoms, but on a full and careful observation of all the circumstances of the disease.

We may say, then, that where the expectoration is such as we have described above,—where the breath has a highly putrid odour,—where the hectic fever is indistinct and irregular,—where the complexion is of a sallow or leaden hue,—and where, besides, the history of the case is that of simple inflammation from the commencement; or even where some of these diagnostic marks are deficient or indistinct, whilst the majority of them are clearly present, we may decide, with as much certainty as the general imperfection of our science will allow of in any case, that the disease is apostema of the lungs, and not tuberculous consumption.

Nor, indeed, is our diagnosis to be here considered a matter of mere speculative curiosity; as it is intimately connected with that which is of paramount interest to the patient and to his friends: I mean the prognosis afforded by the disease. For, if the quantity of matter expectorated in such cases as those described above were presumed to be the produce of tuberculous vomica, it is almost unnecessary to say that the prospects of the individual would be unfavourable indeed: whilst, on the contrary, if we have reason to think that the sputa arise from simple suppuration of a part of the viscus, we may look forward with much more sanguineness to the termination of the malady, as undoubtedly a large proportion of such cases arrive, under proper treatment, at a favourable conclusion.

With regard to the treatment of this disease, it will be seen, by a reference to the cases I have related, that the separation of the sphacelated part of the lung, of which the parietes of the abscess or abscesses are formed, is often accompanied, even in an advanced period of the complaint, with attacks of inflammatory action, requiring venesection and the other expedients applicable to the treatment of inflammation; the necessity for which will be sufficiently pointed out by the state of the pulse and the skin, and the aggravation of pain in the seat of the disease. As soon, however, as this stage of the disease has passed by, the patient will be observed to thrive and fatten under the administration of chalybeates and other tonics, and the use of a more nutritious diet than was previously admissible; means which may be resorted to even when the cough is troublesome and the expectoration still purulent and bloody, with much more boldness than would be justifiable under similar circumstances in cases of tuberculous affection of the lungs.

The mode in which the lungs recover themselves, and become capable of again performing their ordinary functions, without any particular inconvenience or difficulty, after they have suffered from simple suppuration, may also be fairly deduced from the cases which I have described. It will be observed in the first of these cases, that during the earlier part of its progress, and even after the disease had taken a favourable turn, the left lung, in which the abscess occurred, was less expansible than the right, in which it may be presumed there was no disease; so that, when the patient drew in his breath deeply, the right side was much more elevated by the inspiration than the left; but that, as the fetid matter was from time to time ejected, and the diseased lung freed from the suppurated and sloughy parts, it gradually recovered its expansibility, and at length appeared to admit air as freely as the other lung.

Now the manner in which this was effected is shown by the dissection of the case which died. In it one of the cavities still contained sloughy and purulent matter; but the other, the inferior one, had been cleared out, and was found lined with a smooth membrane, very similar to, although of a darker colour than, the ordinary mucous lining of the air-tubes, and the cavity had evidently, during the latter part of the patient's life, served the purpose of a large air-cell.

In the same manner we may presume that the *whole* of the excavation in the case of Brennin (who recovered) was emptied of its contents, and rendered capable of admitting air, and thus at length allowing the lung to be expanded as usual during inspiration.*

We must recollect besides, that as, during the inflammation and suppuration of a portion of the lung, some of the neighbouring pulmonary tissue, although not absolutely involved in the suppurative process, may become indurated by the deposition of coagulable lymph; so if, after a time, the lymph thus deposited is removed by the absorbents, which I believe to be possible when the hepatisation is not extensive, this impediment also to the free dilatation of the chest will be removed.

If it be asked why the former of these cases recovered, whilst the other terminated in death, it may be suggested, in the first place, that the individual who died had been suffering much longer from the disease than the patient who recovered; that the former had not been medically treated at all, whilst the latter had been cupped and blistered before his admission; that, in the case which terminated favourably, the disease was obviously confined to a small portion of the left lung, whilst, in the other instance, both lungs had been more

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* A curative process, somewhat similar to this, is occasionally instituted in tuberculous excavations of the lungs; a distinct instance of which we have lately seen in the dissecting room of St. George's Hospital.

or less inflamed; and that, besides, the peripneumony which had partially destroyed the substance of the right lung, the patient had suffered from pleurisy, as evinced by the empyematous effusion in the right cavity of the thorax.

Before I conclude, I will take the opportunity of saying a very few words on the subject of common tubercles of the lungs. In the above remarks, I have often mentioned tuberculous vomica as an ordinary and well-known form of degeneration in the pulmonary tissue. Now the question respecting the true pathology of this variety of tubercle, has given rise to many ingenious attempts towards its elucidation. I trust, however, I shall not be considered presumptuous in saying that no one of the explanations hitherto offered, as far as I am acquainted with them, appears to me to be conclusive on the subject. My own impression, indeed, founded on repeated examinations of these bodies, and a careful consideration of all their varieties and modifications, has long been, that the original nuclei of pulmonary tubercles are formed in the mucous glands or follicles of the membrane lining the extreme air-cells and air-tubes; which species of glands I believe, with Bichat, to abound wherever there is mucous membrane, although they are in many places not discoverable until they are demonstrated by disease; these glands or follicles being choked up with their own coagulated secretion, and, where several of them are similarly gorged and enlarged, often coalescing with each other, become, as I conceive, the sources of irritation and subsequent ulceration of the surrounding tissue. At length this mass of coagulated and vitiated mucus, mixed with the pus of the ulcerative process, is thrown up by coughing, and leaves those cavities in the lungs, lined with a thick, whitish, coriaceous membrane, so well known as tuberculous vomicæ.

I am well aware that there are some obvious difficulties in this explanation of the disease in question; but I am prepared to show, and may perhaps take an opportunity of doing so in a future Number of your Journal, that no view hitherto taken of the origin, and progress of these concretions is open to fewer tenable objections than this, or accounts more consistently with the pathology of mucous membranes in general (all of which are subject to a similar disease,) for the phenomena which are observed to accompany the maturation, as it is called, of tubercles in the lungs.

From the Lancet.

DISEASES OF THE NAILS.

Hospital of Surgery, St. James's.

It is too frequently the fault of the surgical student, in attending hospital practice, to allow his mind to be captivated, and exclusively interested by the imposing magnitude of "capital" operations, and of rare and extraordinary cases, while he heedlessly passes over the more common and less dangerous diseases, considering them to be of little comparative consequence, but which are the very ones that require most knowledge and experience in conducting their treatment, and which he will, in private life, have so frequently to encounter.

The affections of the nails, although of a most painful and harassing nature, and which frequently lead to distressing and serious results, have been too frequently considered as holding a very humble rank in the catalogue of disease. Having, however, of late witnessed the progress of several cases of this kind, and having seen the misery which these affections caused, and the almost savage practices generally employed in their cure, we have been convinced of the propriety of viewing them in a far different light. It is, therefore, with much pleasure we have to report the history of some cases from this hospital, and to give an account of a most simple, gentle, and scientific plan of extracting the nail, which we had an opportunity of seeing practised by Mr. Durlachre, the celebrated Royal Chiropodist, who was introduced by Mr. Wardrop for the purpose of exhibiting his plan, which we consider a most important improvement in this department of operative surgery.

Most of our readers are probably aware, that Mr. Wardrop, in a paper published in the Medico-Chirurgical Transactions many years ago, was the first to point out the difference between what is generally called, "the growth of the nail into the flesh," and that affection of the secreting surface, or matrix, which he has distinctly described under the name of "Onychia Maligna." He has likewise shown, in the same paper, the impropriety of the term "growth of the nail into the flesh," since in general the form of the nail is not changed from the natural state, but the neighbouring soft parts being irritated by the pressure of the shoe and weight of the body on its sharp edge, swell and envelope it, and in this way it becomes only the secondary cause of the continuance of the disease. These observations led Mr. Wardrop to treat the affection, not by attempting to alter the form of the nail, but by allowing it to grow completely beyond the soft parts, and, at the same time, subduing the inflammation and thickening of these by the use of escharotics. In the majority of cases, this practice is attended with complete relief; but there are some in which the disease in the neighbouring integuments is so extensive, and where the nail has been partially and incompletely removed, in which the best practice is to remove a portion from its matrix, the effect of which is to allow the soft parts to regain their healthy condition, while the regeneration of the nail is taking place. During its growth, the new nail can, if necessary, be controlled in its form and direction.

To accomplish the removal of the nail, various operations have at different times been performed, all of which being remarkable for

their severity, render the method of Mr. Durlachre more particularly worthy of being made known. Ambrose Parè recommended the sharp pointed blade of a pair of scissors to be thrust up the length of the matrix between the flesh and the nail, and after dividing the latter, he tore out with a pair of forceps, its two portions separately. The plan lately recommended by Baron Dupuytren, is nearly as barbarous; he with a bistoury cuts completely out, not only the nail itself, but also its matrix; an operation which entirely precludes the possibility of the recurrence of the complaint, but at the same time for ever deprives the patient of the use of the nail.

The operation of Mr. Durlachre, by which any portion of the nail may be extracted, is performed without giving almost the slightest pain, and without spilling a single drop of blood. The principle of its performance is founded on the anatomical fact, that the nail is enclosed within a doubling of the epidermis, and it consists in cutting the former through, without injuring that portion of the cuticle which is reflected over the singularly sensible surface which lies below. The manner in which he effects this, is described in the operations which he performed in the following cases:—

Case 1. ——— about 20 years of age, has been long affected with a severe inflammation of the soft parts of the last phalanx of his great toes, which he ascribes to the "growth of the nails into the flesh," from the wearing of tight shoes. The teguments are red, swollen, and so very painful as to prevent him from walking or putting on shoes; his life is thus rendered miserable; the skin at the edge of the nail is ulcerated; a fungous growth has arisen, which bleeds on the least exciting cause. The pain, which is occasionally accompanied with general febrile derangement, is frequently of a very severe character. He has undergone several most painful operations on the nail, and tried every variety of treatment without receiving any permanent benefit.

In this very aggravated case, where the disease affected not only both toes, but also each side of them, the operation was of a more complicated nature than what, in ordinary cases, is required, as it was necessary to cut away both the edges of each nail; this Mr. Durlachre effected in the following way:—having cleaned the root of the nail, and marked the distances, with a very small fine knife, which resembled in form Key's cataract needle, he made very gentle, repeated, and cautious incisions, till he had cut through the nail, and arrived at the epidermis reflected below it, occasionally using a small lever to show how far he had penetrated. He then, with a small pair of forceps, which had a rounded point and was provided with a sliding clasp, very gently loosened the portion of nail from its attachments, and extracted it. This operation was successively performed on each side of the nails, and was attended with no pain, and without spilling a single drop of blood. The patient experienced immediate relief, and even before he left the room a diminution in the inflammatory redness of the soft parts was apparent, and he was able to walk with comparative ease.

Case 2. J. G. æt. 30, for seven months had been under the care of different surgeons, for a "growth of the nail into the flesh" of the right great toe, which was attended with so much swelling of the soft parts as completely to surround and bury the nail, and with so much inflammation and pain as to prevent him entirely from walking. He was, in this way, completely prevented from following the avocations of business. During the continuance of the complaint, he had undergone many exceedingly painful operations, in which portions of the nail had been cut and torn out; he had, however, obtained no permanent relief.

Mr. Durlachre, after examining this case, stated, that although the anterior part of the nail had been most assiduously taken away, yet that a shoulder had been formed running transversely into the soft parts, which had gradually increased in length after the different operations; he therefore proposed to extract a portion of the nail in its whole length, which would carry along with it the shoulder, which he conceived was the cause of all the disease. The method which he pursued to accomplish this object was in every respect similar to the operation detailed above. The patient instantly felt relief; the inflammation of the soft parts soon subsided, and when the nail was reproduced a perfect cure had been effected.

From the Medico-Chirurgical Review.

CLINICAL REPORT ON THE SEAT OF FEVER, BY M. BALLY.

[*Cochin and La Pitié.*]

The last quarter of 1826 furnishes the materials for this report, which is entirely dedicated to the paramount subject of investigation on the Continent—GASTRO-ENTERITIS. We too, deem it a subject of high interest; and are glad to see that it excites peculiar attention in this country, especially among hospital physicians.

It is, says our author, by connecting morbid phenomena with the local lesions on which they depend or are connected, that the moderns have arrived at exact knowledge of those grave and complex affections to which the ancients have applied the vague term of putrid, malignant, nervous, and adynamic fevers, which are, in reality, veritable *gastro-enterites* degenerated, or as they are more properly and precisely termed by M. Bally, *ileo-diclidites*, signifying *inflammation of the ileum and upper surface of the valve of the colon*, the parts most commonly affected in fevers. M. Bally concludes, from a passage in Hippocrates, that the Father of Medicine was acquainted with this remarkable fact. He observes in the third book of his Epidemics, that, "among those individuals

who perished, whether the disease ran a quick or a protracted course, the greater number died of affections of the bowels." This affection, M. Bally thinks, could be nothing else than inflammation. In examining the cases of fever detailed by various authors, and by Pinel among the rest, he considers it impossible not to conclude that the majority laboured under that state of the intestinal canal so well described by Broussais and his disciples. Those who have taken the pains to open many bodies after death by fever, afford innumerable proofs of the phenomenon in question, though they looked upon the disease as a concomitant or consequence rather than a cause of fever. In short, says he, if we compare the descriptions of putrid and malignant fevers, as handed down to us, with those of the gastro-enterites of the present day, we cannot but be struck with the resemblance. All allow that inflammation of the mucous membranes is a very common *attendant* on fever—and for his own part, M. Bally believes it to be the disease itself—or, at least, the first and principal lesion in fever.

The fevers of the last quarter of 1826 have tended to confirm M. Bally in the truth of this doctrine; and what is more, they have enabled him to make some distinctions not hitherto much noticed, and to adopt an important and successful method of treatment.

Scarcely had intermittents begun to subside, when inflammations of the digestive tube became prevalent. Some of them were hæmorrhagic, and terminated fatally in a very prompt manner. The greater number, however, assumed a low or typhoid type. These forms were more dangerous in proportion as they succeeded early to the intermittent epidemic; and M. Bally conceived that there was an intimate connexion between the two epidemics, especially as the gastro-enterites frequently assumed a quotidian intermittent character. When this was the case, the antiphlogistic treatment did not succeed, and the sulphate of quinine was effectual. The state of adynamia, which often supervened in the course, or towards the close of the fever, did not appear to result from any primitive debility of the subject, or as consecutive of gastro-enteritis; but it seemed often to depend on the lesion of some other organ, over which the antiphlogistic treatment had not effectual control. The rigidity of the limbs, the tremors, the subsultus tendinum, the throwing back of the head, the delirium, the ramblings, the loquacity, the difficulty of expanding the chest—all these functional disorders, says our author, were far from constituting the debility. They showed themselves during the existence of the most acute irritation, and they subsided with it under a very active system of depletion. They must, therefore, have depended on disorder of some particular organ.

M. Fodera considered the superior portion of the spinal marrow as the principal seat of affections truly adynamic; and our author partakes of the same opinion. He thinks this is confirmed both by experiments and by pathological anatomy. The above portion of spinal marrow has been often found softened in the dead body by our author, M. Bally. Stoll, whose authority is good on all points of practical observation, long ago remarked that putrid fevers did not always infer fevers of debility. He was somewhat astonished to find that bleeding and other evacuations cured the disease better than tonics. The oppression and the prostration of muscular power, although different in their nature, acknowledge the same cause. "The first results from congestion; the second, from inflammation of the spinal marrow." Bleeding, he observes, is more effectual in relieving the former than the latter condition of parts. "Thus, in the beginning of all adynamic fevers, the symptoms which constitute debility are owing to congestion or inflammation of the spinal marrow, either primitive or consecutive of gastro-enteritis." We agree with our author that great errors are daily committed by pathologists in considering that there can be no *disorder* in a part during life, if no trace of change of structure be discernible after death. The organization of the brain, nerves, and their investing membranes, is so very delicate, that disorder of function sufficient to destroy life every day occurs, without alteration of structure. Hence the necessity of taking into consideration the symptoms, as well as the *post mortem* investigations.

Numerous dissections, made with the greatest care, have convinced M. Bally that inflammation of the lower portion of the small intestine, and upper surface of the ileo-cæcal valve, constitutes the first period of what are termed putrid or typhous fevers. If this inflammation be checked by nature or art, the subsequent symptoms of debility or putrescency do not occur. If not, the disease proceeds to ulceration or destruction of the mucous membrane. It is very rare to find any alteration of structure in the duodenum, jejunum, or colon. The cæcum itself is seldom affected, although the upper surface of the valve is so generally implicated in the disease. What can be the cause of this locality of the disease in the part above mentioned? M. Bally attributes it to the difference of acrimony in the contents of the small and of the large intestines. Nature, he says, is sometimes equal to the task of curing these ileo-cæcal inflammations—and, in one instance, this was effected by a profuse nasal hæmorrhage.

The division of the disease into two stages or periods, is not only philosophic, but of great importance in a therapeutic point of view. In the first period, or that of inflammation, the antiphlogistic treatment may arrest the progress of the disease, and prevent the degeneration of the fever in the putrid or ulcerative form. But this disease, though so formidable and fatal in its advanced stages, does yet commence in so insidious a manner, that the patient is not soon enough alarmed

and is seldom sent to an hospital till after the first or second week, when the local affection has made great head, and when the constitutional symptoms veil those of the primary topical affection. As soon as the symptoms indicate that the inflammation is passing into the state of ulceration, it is necessary to abandon the antiphlogistic treatment, as far as sanguineous depletion is concerned, and to have recourse to powerful counter-irritation, so as to attract to the surface that morbid excitement which is going on internally. M. Bally does not, however, employ blisters for the purpose of counter-irritation. He has not seen advantage arise from their application in ileo-diclidites—but, on the contrary, disadvantage, from the property which the lytta has of causing irritation in the internal tissues. Mustard cataplasms have produced much better effects in the way of revulsion, when the brain or other organ was sympathetically affected. But he seems to place his principal dependence on a plentiful crop of pustules, brought out by tartar-emetic in the umbilical region. He has never seen any reason to conclude that the antimony is absorbed on these occasions—a position which we ourselves can substantiate by wide experience of this powerful counter-irritant. M. Bally employs a tartar-emetic plaster rather than ointment, to the abdomen, and in this respect we also coincide with him. It is far less troublesome, and far more powerful than the unctuous frictions. He sometimes applies a dozen of leeches to the part, and as soon as these animals fall off, he places a Burgundy-pitch plaster, well powdered with tartrate of antimony, over the leech-bites. In less than 48 or 64 hours a plentiful crop of pustules is elicited, each pustule surrounded by an areola of inflammation. If any species of counter-irritation can relieve the internal malady, this will do the business. In very grave cases, M. Bally employs an antimoniated drink for several days in succession, with the view of copiously evacuating the acrimonious contents of the small intestines, which prove a powerful source of internal irritation.

"Finally," says he, "when quotidian exacerbations, analogous to the periodical accessions of an intermittent fever, become associated with the ileo-cæcal affection, the sulphate of quinine is to be exhibited, notwithstanding the redness of the tongue, the abdominal pains, the diarrhœa, and the various other signs of inflammation of the mucous membrane of the intestines."

Such was the practice pursued by M. Bally, and, in general, it was productive of the best effects. We shall now give the particulars of a few cases in illustration.

Case 1. Peter Fontier, aged 23 years, had been exposed to wet and cold while in a state of perspiration. On the following day he experienced chills, fever, nausea, pains in the bowels, and diarrhœa. He entered the Hospital Cochin on the 2nd of November, the 21st day of the complaint. The following were the prominent phenomena:—decubitus dorsalis, stupor, flushed face and injected conjunctivæ, tongue dry and red at the sides, epigastrium painful on the least pressure, much diarrhœa, subsultus tendinum. *Prescribed lemonade with gum arabic.* 22d day. He this day had an abundant discharge of black blood from his nose, amounting to 12 ounces. The head is now more free, the abdomen more supple and less painful, the pulse softer. 23d day. Another epistaxis, though less abundant. The tongue is very red, the alvine evacuations copious, frequent cough, increase of subsultus tendinum. 24th and 25th days. Nasal hæmorrhages each day, which do not appear to afford relief. The decubitus dorsalis is now complete, with occasional delirium. The lips and tongue are covered with black sordes—the abdomen is tense and distended, and he has ten or twelve motions daily. *Sinapisms to the abdomen.* 26th day. Another nasal hæmorrhage, and the tongue is less red at the sides, the purging more moderate. 27th day. Epistaxis moderate—great debility—coma. *Lavements of decoctum cinchonæ—sinapisms renewed.* 28th day. The epistaxis did not take place—abdomen not painful—tongue begins to clean. From this time, the disease decreased daily and convalescence gradually ensued, with ultimate recovery.

Case 2. Bougerie, aged 25 years, had experienced, for several days, a bloody diarrhœa, with colicky pains, tenesmus, and pains in his head. He was bled largely from the arm, and 14 leeches had been applied to the anus, with evident relief. He entered La Pitie on the 18th October, the eighth day of his illness. He had then great prostration of strength, with disposition to delirium—flushed face—injected conjunctiva—dilated pupils—dry tongue, red at the sides—urgent thirst—abdomen supple, but swelled and painful on pressure—diarrhœa, with some blood in the stools—pulse hard and frequent. *Rice water with gum.* 9th day. Delirium—intense heat of skin. *Thirty leeches to the anus.* 10th day. Slight epistaxis—dorsal supination—cheeks red—cephalalgia with delirium and subsultus tendinum—lips, teeth, and gums, fuliginous—tongue the same as before. Pressure on the umbilical region gave pain, as also in the right iliac region. The intestinal evacuations are suspended—dysury—pulse strong. *Sixty leeches to the abdomen, followed immediately by a large mustard cataplasm.* 11th day. The same prostration of strength; but the head is more free, the urine more copious, the tongue less red, and the abdomen less tender—pulse softer and slower. 12th and 13th days. Considerable improvement—tongue yellow—several loose stools—skin natural. 14th day. Several hours of tranquil sleep—some return of appetite. From this time the tongue began to clean, and convalescence was soon established.

Case 3. Julien, aged 24 years, entered the Hospital Cochin, on the 11th of December, the eighth day of his illness, which had commenced with chilliness and shiverings that

lasted 48 hours, succeeded by cephalalgia, nausea, and bad taste in his mouth. 9th day. The face is flushed—the conjunctivæ injected—cephalalgia—tongue swelled, red, and furred—thirst urgent—epigastrium painful on pressure—diarrhœa—breathing oppressed, pulse strong and full, skin hot. *Lemonade with gum—forty leeches to the anus—frictions.* 10th day. The tongue very red—abdominal pains acute—twenty liquid evacuations from the bowels. 11th day. Great agitation—patient complains much of his head—face flushed—delirium—lips and teeth fuliginous—sensibility of the abdomen exquisite—pulse very quick—some tremor of the upper extremities. Sixteen leeches to the umbilical region, followed by a tartar-emetic plaster over the bites. 13th day. Same state of agitation—loquacity—dryness of the mouth—burning thirst—several liquid stools—swelling of the abdomen. *Emollient lavements.* 14th day. Last night was more calm; but the tongue is still red, and the pulse quick and sharp, with heat and dryness of skin. 15th day. The patient is better, and asks for food. All the symptoms are meliorated. The plaster is taken off, and there are numerous large pustules where the leech-bites had been. From this time, convalescence regularly advanced, and the patient entirely recovered.

We must pass over some interesting cases, where the event was equally fortunate through the same means, in order to give some particulars of a case that proved fatal, and where dissection took place.

Case 4. Etienne, aged 27 years, entered the Hospital Cochin on the 11th of October, stating that he had been ill a fortnight. He had passed the whole of a day in a damp cellar occupied in hard labour, and from this he dated his illness, which commenced with shiverings, cephalalgia, pains in his limbs, &c.—the shiverings coming on regularly in the evenings. He had taken plenty of hot wine and bouillon. 16th day. Face flushed—tongue coated in the middle, and red at the sides,—thirst urgent—abdomen not tender—diarrhœa—pulse high, hard, and frequent—skin covered with perspiration. *Lemonade with gum—15 grains of sulphate of quinine in the 24 hours.* 17th. The same accession of symptoms in the evening—the same treatment. 18th. Delirium was added to the evening paroxysm, with watery diarrhœa. 18 grains of sulphate of quinine. 19th. The evening accession was only known by a strong excitement of fever, the skin being moist. The sulphate of quinine suspended. 20th day. Tongue very dry and red—much alteration for the worse—pulse strong and frequent. 21st day. Delirium—decubitus dorsalis—nausea—pulse 90. 22nd day. Not much delirium, but great prostration of strength—tongue and lips fuliginous—abdomen distended. 23d day. Somnolency—head drawn backwards—subsultus tendinum—involuntary defæcation. The patient lingered on till the 38th day, when he became affected with tetanic rigidity throughout the whole body, and, in a few days more, he expired.

Dissection. The colon and the abdomen, in general, were distended with gas. The mesenteric glands were enlarged and inflamed—coats of the stomach red, but not softened—duodenum contained a yellowish matter—internal surface of the ileum covered with innumerable ulcerations, of various sizes, but increasing in number as the valve of the colon was approached. The mucous membrane in the interstices was much thickened. The liver and spleen were enlarged. There were various traces of inflammation and effusion in the brain and its ventricles, as well as in the spinal marrow. The latter was softened for the space of two inches opposite the sixth cervical vertebra, and also there was a softening abreast of the first vertebra (counting from below) extending down towards the eighth dorsal vertebra. There was no other lesion of any consequence in any part of the body.

From the foregoing and many other cases too numerous to introduce, M. Bally considers himself borne out in the doctrine which he maintains—namely, that the peculiar inflammation and ulceration seen in these fevers is not a common gastro-enteritis—the stomach being rarely affected; and that only secondarily—but an *ileo-diclidite*, or affection of the ileum and superior surface of the valve of the colon. M. Bally dwells on the importance of recognizing this pathology of the disease, if it be correct, as it will tend to restrain the routine practitioner from throwing in stimulants and tonics at an early stage of the disease, from dread of debility; and induce him to use proper depletion and cooling aperients, in order to prevent the ulcerative stage that may otherwise ensue. We recommend these observations to the attentive consideration of our brethren, so that they may be brought to the test of experience. As we said in the beginning of this paper, there is great reason to believe that these inflammations and ulcerations of the mucous membrane of the intestines, are much more common than practitioners are inclined to acknowledge—probably from want of that minute attention to post mortem examinations so conspicuous on the continent.—*Journal Gen. de Med.*

CASE OF FATAL SALIVATION.

Mercurial salivation, especially in adults, is so rarely fatal, that the following case deserves record—more as a curiosity, however, than as holding out any rule of conduct by which we can be guided in future; for here there was no misconduct on the part of the medical practitioner, nor any apparent peculiarity in the constitution of the patient, to contra-indicate the use of mercury.

Case. A soldier, 22 years of age, was admitted into a regimental hospital on the 22nd February, for the treatment of chancres situated at the base of the glans penis. Half a drachm of mercurial ointment was rubbed in

every second day, and a grain and a half of the oxymuriate of mercury being divided into four doses, he was ordered to take one dose on alternate days. On the 9th day, having made five frictions, and taken the above quantity of oxymuriate, salivation appeared, and the mercury was discontinued. The ptyalism ran high; and low diet, cooling aperients, gargles, and various other means were resorted to, but without the least effect in checking the salivation. The tongue became greatly swelled and indurated—the cheeks ulcerated—the gums were destroyed, and the teeth loosened. Deglutition was extremely difficult—and the nights sleepless. The venereal ulcers rapidly disappeared. Leeches were applied in succession to the face and neck, and opiates were given, with the view of procuring some sleep. But nothing arrested the progress of the ptyalism, and its devastations on the mouth, tongue, and throat. On the 5th of April, incisions were made into the tongue, with the hope of relieving the swelling of that organ; but little good effect resulted. By the 18th of April the salivation began to diminish, and ceased entirely by the end of the month. The swelling of the tongue disappeared, and the ulcers of the mouth healed. But the man continued pale and emaciated, complaining of sense of heat in the epigastrium, and having cough without expectoration. Early in May, expectoration appeared, and was accompanied by diarrhœa. He soon began to throw up purulent matter, and he died of rapid pulmonary consumption of the 14th May, not quite three months from the commencement of the mercurial treatment.

On dissection, the mouth, and parts contained it, were found perfectly healthy. In the left lung a large abscess presented itself, full of fetid matter, a quantity of which was extravasated into the bag of the pleura on that side. There was nothing particular in any other part of the body.—*Jour. Complementarie, Fevrier.*

The above is a melancholy case; but is it to prevent our administering mercury in a similar case of syphilis? Two or three drachms of mercurial ointment, and a grain and a half of oxymuriate of mercury in nine days, are not quantities of the mineral from which any danger can be apprehended, under ordinary circumstances—and the extraordinary circumstances, that is, the idiosyncrasies of constitution to which mercury may be poisonous, are utterly incognizable, till the mischief is done! —*Med. Chir. Review.*

PNEUMONIA AND GASTRO-ENTERITIS WITHOUT PAIN.

The different kinds of sensibility in the viscera and in the skin have led into great delusion, not only in chronic but even in acute diseases. The following case is worthy of record on this account.

Case. Nicholas Lesacq, aged 52 years, a sub-officer, was received into the Val de Grace, on the 22d April, 1827, in the evening. On the morning of the 23d, Dr. Damiron, then on duty, saw the patient. His face was flushed, eyes sparkling and watery, skin burning hot, tongue dry, brown in the middle and vividly red at the sides, thirst urgent, pulse quick and cordy, breathing difficult, cough frequent, with copious ropy expectoration, dull sound in the right side of the chest, and the air not very freely permeating the other lung. The patient stated that he had been ailing since the 18th of April, with cough and fever, but that he felt no pain at any time, or in any part of the body, even on the fullest inspiration. This absence of pain embarrassed the physician a little, but an analysis of the symptoms left no doubt in his mind that there existed inflammation of the digestive and respiratory organs. Venesection—25 leeches to the epigastrium—diluents, &c. At 4 o'clock in the afternoon there came on a shiver, with stridor dentium. This rigour lasted six hours, and was succeeded by heat, but of no long duration, for the patient expired at two o'clock in the morning.

Dissection. Three fourths of the right lung were hepatised, the inferior portion or fourth being sound, and separated from the hepatised structure by a very distinct line. The left lung was black, but crepitous. The bronchia on both sides were greatly inflamed, and filled with a mucous secretion mixed with frothy blood. There were no tubercles. The heart was rather larger than natural. The stomach was very voluminous, and contained only an aqueous fluid. The mucous membrane of this organ was vividly red, with several brown and white stripes, but no ulceration. Some marks of inflammation were observed in the small intestines, but not to so great an extent as in the stomach.

The foregoing case shows that several viscera may be intensely inflamed, and yet produce no local pain appreciable by the patient. Epigastric pressure caused no uneasiness—a fact which we have often observed in real inflammatory disorders of the mucous membranes, while, in many cases of simple irritation, and where no inflammation existed, we have found the greatest sensibility to pressure at the scrobiculus cordis.—*Ibid.*

From the Medico-Chirurgical Review.

Commentaries on some of the more important of the Diseases of Females. In Three Parts. By Marshall Hall, M. D. F. R. S. E. Octavo, pp. 376, with eight coloured plates. Longman and Co's. 1827.

Dr. Hall's name has been so long familiar to our readers, that it is unnecessary to recall to their recollection the several works which he has published—and which have uniformly characterized him as a most acute as well as talented observer of the phenomena of diseases. It is now nearly ten years since his Essay on the "Mimoses, or Disorders of the Digestive Organs," attracted considerable attention, and stamped the author as a physician far beyond the general run of routine

practitioners, who too often take for granted what has been first impressed on their minds by their teachers, and dislike the trouble of afterwards observing, comparing, and investigating, and thinking for themselves. The only fault, indeed, which has been objected to Dr. Hall, is that of being too minute in his distinctions—and if this was a *fault*, it was founded on his being to minute and accurate in his observance of the various shades and differences of diseases—a supererogation that will be readily pardoned!

The present work is not original—but a consolidation and emendation of the author's former publications, in which he has entered more fully into the investigation of those diseases which formed the subject of his essays and papers, "in the conviction that a renewed inquiry into their diagnosis or essential differences under a similarity of appearances, and into their nature, pathology, and treatment, will lead to many important and beneficial results."—*Pref.* The author modestly considers this inquiry "as only just begun, and as still affording great scope for further investigation."

These commentaries are divided into three parts—the first embracing those morbid affections incident to female youth—the second comprehending the disease which supervenes during the puerperal state—and the third treating of those affections incident to the middle and later periods of female life. To each of these three parts we shall dedicate an analytical article, passing lightly, of course, over those subjects which have been already reviewed in this series of our journal.

I. *Disorders incident to Female Youth.*

Dr. Hall thinks that the peculiarity of the female constitution which principally modifies the disorders of the sex, depends chiefly on "the greater development of the capillary vessels, and the greater susceptibility of the nervous system, than are observed in the male sex." Hence results a greater tendency to those affections attended with pallor, œdema, and even hæmorrhagic effusions. The female is evidently of more sensitive nerve than the male, and is more subject to painful affections of the head, heart, side, and other parts of the body. The growth of the body influences the general health, and the general health influences, in turn, the growth of the body. A too rapid growth involves debility—while debility often impedes the growth, and interrupts the building up and proportioning of the spine, the pelvis, &c.

The epoch of primary menstruation, like the growth of the body, has a considerable influence on the health, and *vice versa*. So, also, derangements in the return and flow of the catamenia, while they are almost always the effect of some disorder of the general health, become, in turn, a source of constitutional disorder. The state of the uterus and its secretion influences other parts of the body, and especially the mamma, which usually swells and becomes tender at the approach of puberty and the menses.

But there are other states common to the sex, which greatly modify their health; and among these, the confined and loaded condition of the bowels deserves great consideration, together with the injurious effects of sedentary habits. The want of sufficient corporeal exercise draws with it a defective peristaltic action of the intestines, and consequently a remora and vitiation of the fæcal remains of the food. To this may be added the inattention to the calls of nature. Does the ampler size of the pelvic cavity tend to the accumulations in the bowels of females? Dr. H. seems to speak in the affirmative. This remora, he observes, deranges the whole of the chylopoietic functions.

"And, first, the state and functions of the parts within the mouth become obviously disordered; the secretions are morbid, the tongue loaded and swollen, the gums and internal parts of the cheeks red and tumid, the teeth decayed, the breath tainted, and the saliva sometimes profuse and offensive.

"The complexion and general surface of the body then become morbidly affected, and there are pallor, icterode, and other hues, morbid states of each of the textures composing the skin, and frequently œdema. These conditions of the complexion, and of the general surface, vary both in their seat and appearance with the kind and state of the original disorder, and with the state of the tongue and internal mouth. With each of these associated appearances there is a peculiar condition both of the functions of the intestinal canal, and of that of the uterus; and all these affections are variously and characteristically modified by the duration of the malady."

The organs of digestion are disordered—nutrition is impeded—strength is reduced—and the liver (our author affirms) is frequently enlarged. Dr. Hall, however, cautions the medical practitioner against considering every icterode hue in the complexion or general surface as indicating disease or even disorder of this organ. "This state of the cutaneous surface is frequently the effect of a loaded condition and impaired function of the alimentary canal; and it is, in various instances, an affection of each of the cutaneous textures, or of the cutaneous circulation, altogether independent of any tinge of bile."

No organ, Dr. H. observes, is more influenced by the state of the intestinal canal than the uterus. With the changes observed in the state of the tongue, complexion, and cutaneous surface, "precisely proportionate changes take place (Dr. H. avers) in the state of the uterine discharges." The state of these discharges may, he says, in many instances, be ascertained by that of the tongue and complexion.

Dr. H. again adverts to the baleful effects of sedentary habits, and the almost total neglect of regular and active exercise in the open air. The occasional and formal prome-

nade of a string of boarding school misses in the train of their governess, and that only on a fine day, is a mere mockery of that vigorous muscular exercise which nature prompts and craves for in early life.

II. *Disorder of the General Health—Acute Form.*

The general character and symptoms of this disorder are (Dr. H. thinks) very distinct; but its complications are very various, and sometimes predominate over the other symptoms, so as to resemble certain topical affections, and thus lead the practitioner astray.

"This affection, even in its more acute form, comes on insidiously, and the patient becomes gradually and insensibly incapacitated for exertion, either of mind or body. This state of unconscious disorder perhaps endures for many months, before it attracts the serious attention of the patient or her friends; and when a medical opinion is taken, it is usually sufficiently characterized by a general feeling of weakness, with tremor, headach, or vertigo, fluttering, faintishness, tendency to perspiration on the least exertion or surprise, susceptibility to hurry and agitation, weariness, aching, and loss of flesh: and with these symptoms there are peculiar states of the countenance, of the tongue and internal mouth, of the general surface, and of the evacuations, which I now proceed to describe. I would first observe, however, that although the accession of this morbid affection is usually slow and insidious, it is occasionally more rapid, being induced by the occurrence of some other indisposition, or of a fall or other accident.

"Soon after the commencement of this disorder, the countenance is observed to have become rather pale and thin; the lips are pale, and, with the chin, are frequently observed to be tremulous on speaking; the surface of the face is frequently affected with an appearance of oily and clammy perspiration, especially about the nose; and there is usually a degree of sallowness and darkness of the complexion in general, but principally about the eyes and mouth. The face is sometimes rather bloated, and the skin coarsish, at first; but afterwards, there is some degree of emaciation.

"The tongue is almost invariably much loaded; sometimes, however, only slightly, whilst its edges are clean and red. In other severer cases, a load has been formed over the tongue, and has peeled off all at once, or in patches, leaving the surface of the tongue morbidly red, smooth, and tender. But generally the tongue in the acute form of disorder of the general health, is loaded, swollen, and œdematous, marked by pressure against the contiguous teeth, and formed, more or less, into sulci or plaits, and presents upon its upper surface numerous enlarged papillæ; the gums are also swollen, and sometimes red, at others palish, and they occasionally bleed; the inside of the cheeks are, like the tongue, frequently impressed by pressure against the teeth. This state of the tongue and of the gums is accurately represented in Plate I. figures 1, 2, and 3. To observe the sulci in its surface, it is sometimes necessary to distend the tongue by the pressure of two fingers, separating them in a lateral direction. The indentations in the edges of the tongue are most obvious early in the morning; but they are, as well as those in the inside of the cheeks, always obvious enough on a careful inspection. With this state of the surface of the tongue, the gums, and cheeks, there is frequently a slight degree of morbid redness, and, perhaps, of tumidity about the tonsils and soft palate; the teeth, and the mouth in general, are foul; the saliva viscid, especially in the throat; and the breath tainted and fœtid; and I have occasionally known a degree of bleeding to take place, not from the gums alone, but from the posterior parts of the mouth; and this has chiefly occurred during the night, so that the patient has been awoke, and has probably been greatly alarmed, by finding a certain quantity of blood in her mouth.

"The tendency to perspiration is observed on the slightest surprise or exertion, and occasionally, though not very often, in the night, or early in the morning; the skin is, in general, cool, rather moist, and clammy; the hands and feet are apt to be cold, the fingers rather livid, and the nails frequently assume a lilac hue: this state of the hands accords a little with the representation given in Plate VIII. figure 1, but not entirely, the tips of the nails becoming opaque only in some protracted cases of disorder of the general health.

"The patient is frequently affected with nervous tremor, observed in a quivering of the lip or dimpling of the chin on speaking, or when at all agitated. There is also tremor on holding out the hand, or on carrying a cup of tea, for instance, to the mouth; on attempting to stand erect or walk, or on being fatigued or hurried. The tremor, in some cases, has formed the most remarkable feature of this affection; in others it has been far less observed; but it is rarely, if ever, entirely absent. The patient feels unaccountably feeble and weary, and suffers from a sense of aching after slight exertion.

"There is an early, but very slow and gradual emaciation; and it is most interesting to remark, by weighing the patient, first, the still continued progress of the loss of flesh for a time; and then the cessation, and, lastly, the restoration from this fearful morbid process, on the institution of a correct mode of treatment.

"The patient experiences headach or vertigo, and much nervousness and susceptibility to hurry and agitation. There is sometimes heaviness for sleep; sometimes great wakefulness and restlessness; sometimes incubus; and, sometimes, though rarely, delirium; occasionally, there is loss of memory and absence of mind. Indeed the mental, sentient,

and nervous powers appear all to be much under the influence of this affection of the general health.

"The patient is liable to experience faintishness in the upright position, if it be sustained for a little time. There is almost universally a peculiar sense of fluttering about the heart and pit of the stomach. The pulse is frequently nearly natural, but it is sometimes rather frequent, and it is easily accelerated. It is also apt to become irregular and intermittent." 21.

The state of the appetite accompanying the disordered condition of mouth already described, is various—sometimes impaired, sometimes unnaturally craving, without the power to take food. The digestion is apparently good in some—in others, it is attended with distention, flatus, eructation, pyrosis, and even vomiting. The bowels are at first constipated—afterwards relaxed and confined alternately—the evacuations being unnatural in both states, especially in the relaxed condition. Pain in some part of the colon or rectum is not uncommon. The urine is occasionally loaded at the beginning; but afterwards pale. The uterine discharges will probably be found to correspond with the others, if accurately observed—but this can seldom be done. Dr. H. adverts to the *constancy* of the morbid appearances in the countenance, mouth, and tongue—as contrasted with the variability of the other morbid phenomena. Hence, it is on the former chiefly that the accuracy of the diagnosis must rest.

After these observations on the general character of the complications, our author, with his wonted minuteness, proceeds to describe each of these complications separately, with the view of pointing out the diagnosis between them and idiopathic diseases of the same organs. He regrets that the diagnosis is frequently to be founded on the general symptoms, since an idiopathic and organic affection of some part may coexist with disorder of the general health, and, consequently, what was a mere functional complication in the beginning, may become organic in the sequel. He properly observes that it is always a suspicious omen when relief does not follow the due administration of remedies for the primary disorder, especially when the head is effected.

"The most usual affections of the head in this disorder, are pain and vertigo. If there be the symptoms of acute disorder of the general health already described, and if the headach or the vertigo has become habitual, or has long subsisted in a varying character, and especially if the usual remedies for fulness of the blood vessels of the head have been tried without relief, or with transitory relief only, it may be presumed that the affection of the head is symptomatic only, and that it will yield to the plan of effectual but cordial purgatives, to be described hereafter. This opinion will be further substantiated, if the headach or vertigo be conjoined with sickness, faintishness, or cold perspiration, or if there be paleness of the countenance, and some degree of loss of flesh; and still further, if relief be obtained by the administration of warm aperients and a regulated plan of diet." 27.

During the whole course of this disorder, the patient is peculiarly liable to fluttering, irregular action, or violent palpitation of the heart, or even syncope. If there be organic disease of this organ, exertion will always exasperate it—if it be only functional, then, in the intervals of attacks, exercise can be borne without inconvenience. Hæmatemesis and melena are not uncommon complications of this form of the nameless or Proteiform malady, formerly designated by the term MIMOSIS, or imitator, by our talented observer, which term we find he has now dropped. The hæmatemesis is, of course, obvious enough; but the melena may exist without detection. Dr. H. thinks that it frequently occurs unknown and unsuspected by the patient. Jaundice is another complication, together with pains in various parts of the body, giving suspicion of gallstones, inflammation of the pleura, liver, spleen, kidney, or other part of the body. "There is sometimes a sensible hardness, or tumour, which appears to consist in a loaded state of the intestines." Sometimes there is pain so severe as to resemble TIC DOULOUREUX—sometimes spasmodic or convulsive affections—sometimes such loss of muscular power, especially in the lower extremities, as to resemble paralysis. "Each of these cases is to be distinguished by a reference to the constitutional symptoms."

TREATMENT.

The first object is to evacuate and regulate the bowels.

"It would be difficult, however, to determine whether more benefit has accrued from the use, or harm from the abuse, of purgative medicines in the present day. It does not appear to have been observed, that if these medicines be given unduly, they induce or keep up, in many instances, the very disorders they were intended to remove. This is true, not only in regard to the stomach and bowels themselves, but also in regard to some of those organs which are so apt to be affected symptomatically. In fact, if the due limits in giving purgative medicines be exceeded, a state of irritation and distention is maintained in the alimentary canal, of exhaustion and nervousness in the general system, more distressing than the original disorder." 30.

This is a doctrine which we have been preaching for some years—and the longer we live, the more the evidence of its truth accumulates.

Purgative medicines should, therefore, be given (where their employment is necessary for a long time) in such manner and combination as not to produce the effect of keeping up irritation in the line of the alimentary tube.

"This is to be done (says Dr. H.) by conjoining some cordial with the purgative, and by guarding against too considerable or too repeated doses of it; and by attention, at the same time, to a mild and nutritious diet."

After a free purgation, therefore, at the beginning, the object is to induce one full and consistent evacuation daily, avoiding, as much as possible, all teasing and irritating operation of medicine.

"The decoction of aloës, the infusion of rhubarb, and of senna, the tinctures of aloës, rhubarb, and senna, the vinum aloës, the Rochelle and Epsom salts, and manna, and aloës and rhubarb, variously formed into pills, are the remedies which I have thought most suited to effect the object which I have described." 31.

In cases where aperient medicine has proved irritating, five or six drops of laudanum, with twenty of liq. ammoniæ, added to the opening draught, have proved useful. Mercurials, in this class of complaints, are not often employed by Dr. Hall, except where the alvine evacuations do not resume their healthy aspect by ordinary means. Neither is our author very friendly to cordials. "They only excite feverishness; and, when the bowels are brought to a natural state, and when irritation and exhaustion are obviated, medicine has done its office." The rest is to be accomplished by diet, exercise, air, sponging the body, &c. On the subjects of diet, clothing, &c. our author is judicious, and his observations are entitled to respectful attention.

Before quitting the subject of the treatment in acute disorder of the general health, Dr. H. makes a few observations on the remedies for its various complications. On these we shall not dwell, as it is obvious that the primary object is to treat the general disorder, directing attention to the local or symptomatic affections, only when they become prominent or distressing. Thus, affections of the head must be met by cupping or leeching till the brain is relieved, if there be evidence of vascular action there; but it will not seldom require all the penetration of the practitioner to discriminate between headach from gastric and intestinal irritation, and that which results from actual fulness of blood, or inflammation of the membranes. Dr. H. remarks that, "in all those cases attended by hæmorrhage, he has been accustomed to prescribe the pilula hydrargyri." We should like to know his reasons for this. Our author is very friendly to the use of injections of warm water, in loaded, costive, or disordered states of the bowels, as a remedy that "may be beneficially substituted for much of the purgative medicine ordinarily prescribed, especially in females." It certainly is a very useful auxiliary; but we have reason to know that it will not often do without the aid of medicines which act on the upper bowels, and bring disordered secretions within the reach of the injection.

CHAP. III.—*Protracted General Disorder.*

The transitions from the more acute to the more protracted forms of disorder of the general health, are quite imperceptible. The affection may, Dr. H. observes, be considered acute perhaps during the first year of its existence. But it has generally subsisted some years before it assumes the characteristic form about to be described. In some cases there would not appear to have been any preceding acute form of the disorder, the malady having stolen imperceptibly on the patient. In this form, the states of the complexion, of the tongue and internal mouth, of the general surface, and of the bowels, are even more strongly characterized than in the more acute form of the disorder. But "complications," observes Dr. H. "are usually of a totally different character."

"The countenance, in the protracted form of disorder of the general health, has gradually assumed a state of permanent paleness and sallowness, which are, however, by no means very considerable in all cases; the prolabia have lost the hue of health; and together with a diffused sallowness, a more morbid discoloration is usually observed occupying the eyelids, and encircling the mouth. The surface of the face is not affected with perspiration, as in the acute form of this disorder, nor is there the same degree of nervous tremor.

"The state of the tongue is most remarkable. It has, in the first place, generally become gradually clean and free from load; together with the whole internal mouth, it has lost its clamminess, its mucous covering, and its halituous appearance; and the secretions of the mouth and the breath are less offensive, and I have known them to acquire the peculiar odour of new milk. The morbid character of the tongue is evidently not of recent formation; it has no longer those acute impressions from its pressure against the teeth, observed in the acute form of this disorder; the indentations are still very marked, however, but their edges are rounded off; the sulci on the surface of the tongue are, in many instances, still more marked even, but they also have assumed a different character, evidently the impress of long duration; the papillæ are frequently still more enlarged, being much elongated, in some cases, and expanded laterally in others." 43.

These appearances are admirably portrayed in the second plate. Dr. Hall affirms that, "from the peculiar modificaton of morbid appearances in the tongue, we are also enabled to judge distinctly of the *actual state* as well as of the stage of the disorder." Our author says we can, from the state of the tongue, "form an accurate *conjecture* relative to the length of duration of this morbid affection." We hope Dr. Hall has not over-rated the diagnostic value of lingual phenomena. We have, all our lives, paid much attention to the appearances of this organ in diseases; but we confess we have not arrived at any

thing like the accuracy of diagnosis which Dr. Hall has acquired.

Dr. Hall informs us that the *lobulated* appearance of the tongue has been often found by him to accompany simple enlargement of the liver, "of which disease it is therefore a symptom." The general surface, in this state of disorder, is very various—generally sallow and dry, or at least not perspirable. The nails also undergo some remarkable changes. "They first become dry, then brittle, and then begin to split at their points, until at length the patient cannot take a pin out of her dress without breaking them; afterwards they sink in irregularly in their centre, turning upwards at their points, which are variously cracked and split."

"In connexion with the general surface, it is important to remark, that the patient affected with protracted disorder of the general health is peculiarly subjected to several morbid states of the integuments, and of those internal surfaces which are immediately continued from the skin, such as, furunculus, paronychia, hordeola, erysipelas, especially of the nose, erythema nodosum, urticaria chronica, lichen, a harsh and cracked state of the skin surrounding the prolabia, purpura, inflammation, ulcerations or pustules of the conjunctiva, decay of the teeth, a morbid state of the gums and internal mouth, aphthæ of the tongue and inside of the lips or cheeks, chronic sore throat, deep ulcerations of the tongue, &c. and the occurrence of these local affections should always lead us to inquire into the state of the general health.

"There are, in the protracted form of this disorder, less tremor, debility, loss of flesh, and tendency to faintishness, and perspiration, than in the acute, although they are by no means entirely absent. The patient is still incapable of exertion, apt to perspire from effort or agitation, and subject to symptoms of affection of the head, heart, chest, and of the digestion; only usually in a slighter degree than is observed in the acuter form of this affection.

"The bowels, especially, are in an extremely deranged state, either constipated, or with scanty fluid, and fetid evacuations, and, more frequently than is suspected, mixed with blood.

"The uterine discharges become retarded in their returns, of short duration in their flow, discoloured, or pale, and scanty, frequently attended by much pain, and often succeeded by leucorrhœa.

"The appearance of the urine is, like all the other symptoms, very variable; sometimes the patient becomes subject to gravel.

"There is sometimes a degree of œdema, and sometimes a state of cachexia." 48.

The treatment is the same as in the acute form of disorder, excepting that more caution must be used in the exhibition of the different remedies—especially of purgatives.

"In addition to the former plan, there are questions, in the present case, respecting several other remedies; as the sarsaparilla. the sulphate of quinine, and the sulphate of iron. The two first, I am of opinion, may be safely given, and will be found of considerable advantage. The sulphate of iron requires rather more precaution in its administration, but is, I believe, a more efficacious remedy, when suitably given, than either of the former. In order that the sulphate of iron may be prescribed with advantage, the bowels must have been first freely evacuated, and then properly regulated for some time; the tongue must be clean, and the prolabium and countenance in general pale. In such a case, one grain of sulphate of iron, with some aromatic, may be given three times a day; and I think those times should be chosen when the stomach is not empty. I have sometimes even thought it advantageous to give this medicine during meals.

"The sarsaparilla, sulphate of quinine, and sulphate of iron, may also be advantageously given together." 50.

Chap. IV.—*Chlorosis.*

Dr. Hall is of opinion that this curious affection arises from the same causes of disorder of the general health as have already been detailed, and that the causes "of a sexual character," which have been assigned by authors, have rarely any thing to do with the complaint. It steals on in a very insidious manner, but has, according to our author, three pretty distinct stages. "It may be characterized in general as uniting a morbid paleness of the complexion, tongue, and general surface, with recurrent pain of the head, or of the side, palpitation, fluttering, and nervousness, and frequently attacks of hysteria—with some tendency to loss of flesh and to œdema." The various features of this disease, as portrayed in the general surface, the tongue, the countenance, the different functions, and the several secretions and excretions, are delineated and described by our author with more than German minuteness, and we must say with fidelity. For these descriptions we must refer to the volume itself, from page 51 to page 59.

Dr. Hall despairs of giving any thing accurate or specific in regard to the pathology of this and other forms of disorder of the general health. "There appears to me not to be a system, an organ, a texture, or even a fluid in the animal economy, which does not suffer in different instances of this multiform disorder."* A page farther on, however, Dr.

* "There is in chlorosis a remarkable state of the capillary system of circulation, both of the vessels and of the fluids; it is this which gives origin to the exsanguinous appearance of the countenance, prolabia, tongue, gums, and general surface; to the tendency to œdema; and to different species of hæmorrhages, especially those of the mucous and cutaneous surfaces, as epistaxis, melæna, hæmatemesis, and even purpura; and it is from this circumstance that the catamenia

Hall gives it as his opinion, that "the first cause is in the state of the bowels"—that "a concurrent cause is the peculiarity of constitution already described (humoral pathology)—and that an exciting cause is the inactive and sedentary mode of life usually obtaining in female youth." The stomach, Dr. H. thinks, suffers from its contiguity with the intestines; but really we see no reason why the stomach should not suffer from the same general causes that act on other parts of the system, including the intestines, and that, as soon as any other organ or structure in the body. We agree with our author, however, that it is in the digestive organs the first and principal manifestation of the Proteian malady (of which chlorosis is merely one of the numerous shapes) is to be found. This *effect* of numerous causes, moral and physical, becomes, in turn, the *cause* of the numerous other phenomena presented in various parts of the body. That the state of the circulating fluids is deteriorated in this complaint there can be little doubt; and this deterioration of the blood may well become a cause of impaired vital energy in the heart, brain, and other organs. The painful affections of parts, in chlorosis, have sometimes been mistaken for organic disease; and the means employed as remedies have then increased the malady; but a careful examination of the constitution will readily detect the nature of the complaint.

"The treatment of this form of disorder of the general health must be begun by a due evacuation of the bowels; but the use of mercurials, and of active purgatives in general, requires still greater precaution, and the addition of mild cordial remedies is still more necessary, even than in the forms of disorder described in the two preceding chapters.

"Of the class of aperient remedies, aloes and rhubarb appear to me to be best adapted to the cure of chlorosis; the first of these may be given in the form of the decoction, the wine, the simple and compound tinctures, the latter in those of the infusion and the tinctures, and these may also be variously combined together, and, if quite necessary, with manna, and the Rochelle salt.

"When the bowels have, by these means, been fully but gently regulated for some time, different preparations of iron, but especially the sulphate, become specific in this disorder,—gradually restoring the complexion, the general surface, and the uterine discharges, to their healthy state. The condition of the complexion, and of the catamenia, constitutes the true indication for the employment of these remedies, and of their beneficial effects when these begin to be displayed. I do not mean to confine the use of chalybeates to the cases in which the prolabia are exsanguinous and the catamenia are pale, but I can affirm that their efficacy is most unequivocal in these cases.

"The painful affections of the head, of the sides, and of the abdomen, which are so apt to occur in complications of this morbid affection, are generally soon removed by an attention to the original disorder; but, in the mean time, they admit of being much relieved by the application of a spirituous lotion to the former part, or of a liniment composed of the soap liniment, the sal volatile, and the liquor ammoniæ, to the latter, or, if necessary, by a blister. If any further remedy be required, cupping may be tried; but it is extremely important, in chlorosis, to avoid taking blood as much as possible." 67.

Dr. H. remarks, in conclusion, that there is a peculiar species of dropsy, of which he has not seen many instances, but which appears to be allied to this disorder. It is attended by all the phenomena of chlorosis, "and it would probably yield to the remedies of this morbid affection."

Chap. V.—This chapter is devoted to certain forms of disordered health, attended by other changes in the complexion, besides those already noticed. These are chiefly the following, viz. first, the icterode, or yellowish—secondly, the light lead hue—and, thirdly, the ring of tumid darkness occupying the eye-lids. Dr. H. avers, that all these morbid states of the complexion are "dissimilar from that observed in chlorosis and from each other." "Each denotes a distinct form of disorder, having distinct characters and tendencies, being associated with a distinct train of symptoms, and *requiring distinct modes of treatment.*" 69. If this be the case, and if it be true, as our author thinks it is, "that both the *kind and the seat* of these morbid changes vary in the different cases," then we have a labyrinth to wade through which will require the stoutest heart to encounter, and which very few medical practitioners will attempt to unravel.

It is an extremely difficult matter to hit the happy medium between impracticable refinements and useless generalities in medical matters. With all our respect for the talents of Dr. Hall, we cannot but fear that he has verged occasionally to the former extreme. We do not indeed doubt that, with his own tact for minute observation, the distinctions which he has drawn, may be recognized, and even turned to useful account; but we question whether one practitioner in twenty will be able to follow him, or profit by him in some of his discriminations. The following quotation will show that the *difference of treatment* between these different shades of disease really amounts to nothing.

"The remedies for these disordered states of the complexion are such as induce and continue alvine evacuations of ample quantity and natural colour. Mild mercurials are

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become almost colourless and aqueous. I have observed the blood which has flowed from the nose scarcely to tinge the sheets, and that taken from the arm, to resolve itself almost entirely into serum, with scarcely any crassamentum. This disorder affords, therefore, one of the most unequivocal examples of humoral pathology." 61.

efficacious, in conjunction with mild purgative medicines: they require to be given for a very considerable length of time, and should not, therefore, be repeated too frequently.

"In other respects the treatment is similar to that of the other forms of disorder of the general health; the objects being to restore the healthy state of the bowels, and of the uterine discharges, to give vigour to the system, and, if necessary, to remedy the different local complications.

"Sponging, and much friction of the general surface, warm clothing, and a particular attention to guard against coldness of the feet, have appeared to me of great use in restoring the proper state and functions of the cutaneous surface." 74.

Thus we see that the same treatment is laid down for these three varieties, each of which was said to require a *distinct mode of treatment*, while the methodus medendi in this trio really differs so little from that recommended in "the other forms of disorder," as to be scarcely cognizable.

Chap. VI.—*Hysteria.*

This disease is divided by Dr. Hall into three forms or varieties—the mild, the severe, and the inveterate. The common mild form is so well known as to require no remark. The severe form, like Proteus himself, assumes such a variety of shapes and characters as to pass undetected in numerous instances, even under the eyes of the most experienced practitioners.

"The commencement, course, or termination of this, and indeed of every form, of this complaint, is generally marked, and the case distinguished, by the signs of some inordinate mental emotions, to which it is most important to revert, as they afford, in many cases, the most characteristic symptoms of this disorder.

"The attack is frequently ushered in by an unusual appearance of the countenance,—change of colour, rolling of the eyes, distortions, or some spasmodic affection of the muscles of the face.

"A state of general or partial, of violent, or of continued convulsion, or of fixed spasmodic contraction, takes place, and displays every possible variety in mode or form, as trismus, tetanus, contracted hand, distorted foot, or twisted legs.

"The severe form of hysteria sometimes consists chiefly in a violent general or partial pain and throbbing of the head; occasionally this pain is confined to some particular spot even, and is so acute as to have obtained the appellation of the clavus hystericus; sometimes there is great intolerance of light and noise; sometimes a state of stupor, sometimes delirium. This state must be carefully distinguished from an idiopathic affection of the head.

"The respiration is frequently much affected. An oppressive or suffocative dyspnœa takes place; or the breathing becomes rapid, anxious, and irregular, or variously attended with rapid heaving of the chest, or with a spasmodic affection of the diaphragm inducing a peculiar elevation of the abdomen, or an equally peculiar succussory movement of the trunk in general; sometimes the respiration appears to be suspended for some time, the pulse continuing to beat as before; in this case it will generally be found, on attentive examination, that the breathing is performed by the diaphragm.

"A peculiar crowing noise or screaming is apt to occur in this affection; and there is occasionally great hoarseness, or even complete loss of voice, continued for a considerable time.

"There is sometimes a violent, dry, hoarse cough, continued or recurrent in paroxysms; and sometimes there is an attack which resembles the most suffocating form of croup.

"Palpitation of the heart, or syncope, are usual affections in hysteria; the pulse is, otherwise, often very little affected.

"There is occasionally, acute pain of some part of the chest, of the diaphragm, or of the abdomen. This affection might easily be mistaken for inflammation. It is often such that the patient cannot bear the slightest, and most superficial touch even; and it is by this very circumstance that it is sometimes distinguished from pain of an inflammatory nature, which is only aggravated by positive pressure." 84.

The inveterate form of hysteria consists, according to Dr. Hall, sometimes in an almost perpetual agitation of some part of the body, the limbs, the respiration, the throat, or the stomach—sometimes in a state of perpetual contraction of the hand, foot, or some other part of the body. In some instances, there are seizures which it is difficult to distinguish from epilepsy, paralysis, or mental alienation. In short, "hysteria is characterized by affecting in the same, or in different instances, singly or conjointly, all the several systems which constitute the animal frame"—all the organs and functions of the body—all the faculties of the mind!

Yet it cannot be denied that it is of great importance to distinguish the masked forms of this malady from the inflammatory and organic diseases which it imitates. They are every day confounded, especially by young practitioners, and much mischief is done, besides the false prognoses that are given. Such errors are to be avoided by a cautious inquiry into the history of the case, the mode of attack, the immediate exciting cause, and the early symptoms. With all these precautions, however, the practitioner will often be deceived, and only discover his mistake in the course of the disease, when he finds that local affections, which he considered to be inflammatory, are aggravated instead of being relieved by depletion—especially sanguineous depletion.

The methodus medendi in hysteria laid down by our author forms a striking contrast to the minuteness of his descriptions.

"The remedies in hysteria are such as are required by the state of constitutional disorder, and especially by that of the stomach and bowels, and by that of the uterus, the functions of which require to be restored as quickly as possible. Aperient medicines, fomentations of the feet, and of the lower parts of the abdomen, are amongst the first remedies.

"Then follow the means of relieving the urgent symptoms, which are as various as those symptoms themselves.

"For the affection of the head, a lotion of spirit of wine and rosewater is of great service, and, if necessary, a small blister may be applied to the nape of the neck; with these remedies, the tincture of hyosciamus, sal volatile, and æther may be given, or a saline effervescent draught.

"For the pain of the chest or abdomen, a liniment with sal volatile or a fomentation of hot water, may be applied with similar internal remedies.

"The same observations apply to the other forms of hysteria. In all it is of the first importance to act upon the alimentary canal and uterus, then to sooth, and, lastly, to relieve the local pain or distress." 89.

In a short chapter (VII) which succeeds, Dr. H. has offered some cursory observations on certain anomalous forms of disordered health in young females, all of which, however, appear to hinge upon defective energy in the stomach and bowels, and consequently are attended with debility, and more or less emaciation. Amenorrhœa is also a concomitant symptom. The remedies are mild aperients, tonics, slight cordials, with alternate repose and exercise.

Chap. VII. This embraces a disorder of general health which our author has observed in females returned from India.

Dr. Hall, arguing on the fact that menstruation occurs earlier in tropical than in cold climates, concludes that the uterus suffers in females who migrate from Europe to India. He observes that the catamenial flow is apt to become profuse in the hotter regions of the earth, attended, in many instances, with disposition to mænorrhagia, and even to abortion and leucorrhœa.

"The result of this state of things is, that the patient becomes affected with extreme exhaustion, and is often compelled to return to Europe. This change of climate is generally of the utmost service in restraining the uterine discharges; but the effects of the previous drain and losses of blood do not so soon cease, and the patient presents all the symptoms of exhaustion, either in that form which is attended with re-action, or in that in which the symptoms of re-action do not manifest themselves. In addition to exhaustion, there are also very frequently the effects of intestinal irritation, the bowels being extremely apt to become confined." 102.

Two cases in illustration are related by Dr. Hall, for which we refer to the work, from page 103 to 109. The treatment differs little, if at all, from that which has been already detailed.

Chap. VIII. This chapter, which only occupies nine pages, discusses "the diagnosis and symptoms of some local inflammatory diseases." Dr. H. commences by observing that it is the fashion of the present day to consider every local pain and other affection to be inflammatory, "and forthwith to use the lancet." Our author is anxious not to mislead any young practitioner by drawing him into a neglect of this useful remedy, when actual inflammation exists.

"I would even say that it is far better that the lancet should be used twenty times unnecessarily, than that it should be neglected once when really necessary. But still it is my duty to state, that I have seen many, very many cases of protracted indisposition which have entirely ensued from the misapplied and unnecessary use of the lancet." 112.

How are we to avoid the error? By a careful diagnosis.

"Whenever there are the appearances of the complexion, tongue, and general surface, which have been described as obtaining in the different forms of disorder of the general health, the presumption will be, that any local affection is only a symptomatic complication of that disorder. This presumption is strengthened if there be an entire absence of any external cause of the local affection. But it is to be carefully observed that it is, still, only a presumption, and that there may be a concurrence of idiopathic local disease with disorder of the general health,—or that that which was symptomatic at one period, may become actual disease in its course,—especially in the more acute form of disorder of the general health described in the second chapter of this work;—for this very rarely, perhaps never, occurs in the other forms of this disorder.

"If there be many of the general symptoms of disorder of the general health which affect the head, the heart, the breathing, the nervous and the muscular systems, &c. there is a still further, and, I think, a still stronger presumption that any predominant topical affection is symptomatic; for I have repeatedly observed that idiopathic diseases frequently subdues these symptoms, even when they had previously existed, and gives a definiteness to the affection which it had not before, and which returns only when the idiopathic disease is subdued." 114.

Dr. Hall would not say that hysteria is incompatible with idiopathic inflammatory disease; but he is persuaded that attacks or symptoms of hysteria very seldom concur with the active inflammation of a vital organ. It is sometimes super-induced by the remedies for inflammation, denoting then that those remedies have mitigated the disease and affected the constitution; but he believes that in the greater number of cases where hysteria comes on after bleeding, the original complaint was not inflammation, but disorder

of the general health with some local complication.

"Another source of distinction exists in the effects of the remedies which have been employed. Early fainting, from blood-letting, is observed in the complications of disorder of the general health; inflammation, on the other hand, seems to protect the system from the effects of loss of blood: in the former case, too, there are often mitigated sufferings at first, but an aggravated state of complaint on the return of reaction after bleeding; whilst in the latter, this is certainly not observed, but the disease may be found to be unsubdued, or perhaps pursuing its progress." 116.

On the other hand, the complications of disorder of the general health are more relieved by purgatives than an inflammatory affection would be, while the appearance of the evacuations affords an additional source of diagnosis. The administration of lowering remedies in disorder of the general health renders the patient nervous, irritable, and feeble, in a degree not observed in inflammatory disease.

Dr. Hall makes many judicious observations on the diagnosis in particular local affections, as of the head, the pleura, the peritoneum, the lungs, &c. for which we must refer to the work itself.

Chap. IX.—The subject of this chapter is tubercular affection of the abdomen. This is a most insidious, slow, and generally fatal disease. In Dr. Hall's experience, there are more females than males affected with the complaint. The age at which that peculiar form of the disease of which Dr. H. is now speaking, occurs, is usually, according to his experience, from fifteen. The following are the diagnostic symptoms by which our author is guided.

"Tuberculous disease in the abdomen is greatly characterized by three symptoms,—great tendency to coldness and lividity of the extreme parts of the body, a frequent pulse, and slow but progressive emaciation.

"The aspect of the countenance is altogether peculiar, especially in cool weather, together with an obvious emaciation and expression of languor and disease; the end of the nose is livid in colour, and cold to the touch; and there is, in general, either paleness or a slight degree of flushing.

"Similar observations may be made respecting the general surface. There is emaciation; the skin is soft, and apt to become moist, and there are frequently perspirations during sleep, especially in the early part of the morning; to prevent this perspiration, the patient frequently endeavours to keep awake; there is an undue sensibility to cold observed on the slightest unexpected exposure,—as the opening of a door,—and the patient frequently creeps over the fire; sometimes I have observed the back of the hands, and the fore part of the legs, to assume a peculiar brown colour, from being burnt by a constant approach to the fire; the hands and fingers are apt to be extremely livid and cold.

"The mode of walking is peculiar, being attended by stooping, weakness, and caution.

"The pulse is always frequent, and generally regular. It is earlier, and longer frequent, in tuberculous affection of the abdomen, than of any other cavity. I have known the pulse to be between one hundred and one hundred and twenty, for several years.

"The emaciation in tuberculous disease of the abdomen is uniformly but very slowly progressive. It is accompanied by a state of unvaried debility; and in the later periods of the disease, by some œdema, generally observed more in one leg than the other.

"The other symptoms of this morbid affection are less constant; they are chiefly an augmented appetite for food, copious, pale, alvine evacuations, and pain, and sometimes a perceptible tumour, in some part of the abdomen, especially in the iliac or hypogastric regions. The catamenia simply become scanty, or cease, without undergoing the changes observed in some cases of disorder of the general health.

"There are altogether a peculiar appearance of the countenance; a peculiar mode of walking, and a peculiar attitude and manner in general, all denoting debility and great disease; and if to them be added the peculiar sensibility to cold, and tendency to coldness and lividity of the extreme parts of the body, the very gradual emaciation, and the habitual frequency of the pulse, it is scarcely possible to mistake the nature of this disease; but in practice the diagnosis requires very careful and minute observation." 123.

As for tubercular affections of the encephalon they can only be suspected and distinguished from slow inflammation by observing the concurrent existence of tubercles in other parts of the body. The symptoms of tubercles in the lungs have been so ably described by Bayle, Laennec, and Louis, that our author does not think it necessary to take up the question here. Several cases are detailed by Dr. Hall, illustrating the graphic description of tuberculous affection of the abdominal cavity, which we have fully quoted. These cases do not require any analysis in this place.

Chap. X.—This chapter contains some observations on certain affections of the uterus and mamma. The uterus may be affected by disorder of the general health —by a state of exhaustion of the system— by organic disease of some important viscus —and by inflammation of the uterus itself. The morbid conditions which come in under the first head, consist in an impaired state of the catamenial function, supervening, for the most part, gradually—the uterine discharge becoming irregular, generally retarded in its returns, curtailed in its duration, defective in quantity and colour— often ending in complete amenorrhœa. To these symptoms, there is sometimes added painful menstruation, which is much relieved by pediluvia, semicupia, and warm water injections, with opium or hyosciamus.

But our author's chief object in this chapter is to notice some morbid states of the catamenial function, apparently dependant upon an inflammatory affection of the uterus itself, attended with amenorrhœa, dysmenorrhœa, and the ejection of a false membrane from the internal surface of the organ.

"All these cases are attended and denoted by pain. This is frequently constantly present, or at least easily excited by coughing, straining, jumping; it is often felt on voiding the bladder or rectum: it is apt to be augmented in paroxysms, and it is sometimes attended by a sense of bearing down, by frequent calls to make water, or by some degree of tenesmus or uneasy feeling about the rectum; and it is not unfrequently attended by pain at the lowest part of the back, and round the pelvis.

"Amenorrhœa, arising from an inflammatory state of the uterus, will, if we can divest ourselves of the influence of a name, be readily distinguished from the cessation of the catamenia in chlorosis, by the absence of the peculiar appearances of this disorder, and by the pain and other symptoms of inflammation. The mode of accession of this case of amenorrhœa is different from that in chlorosis, being less gradual, and less marked by the gradual changes of colour in the discharge.

"Dismenorrhœa from an inflammatory condition of the uterus is still more common, perhaps, than amenorrhœa. It is sometimes accompanied by great pain and profuse discharges, at each catamenial period, and often proves a cause of sterility. In one instance, the patient became pregnant at length; but the substance of the uterus was diseased, and presented the form of painful tumours, on examination of the abdomen; and, after delivery, a fatal inflammation destroyed the patient. On examination, the uterus was found to be the seat of a diseased structure, in a state of partial suppuration.

"In some instances, the inflamed lining of the uterus has formed a false membrane of coagulable lymph, such as is formed, in some cases, in the trachea, and in the intestines; and this is at length thrown off by painful contractions of the uterus, frequently accompanied or followed by hæmorrhagy. The case resembles abortion. The false membrane has the form of the internal cavity of the uterus, but is readily distinguished, on a careful examination, from an ovum.

"In all these cases, an active application of antiphlogistic remedies is absolutely necessary to relieve the patient, to subdue the inflammation, and to secure the organ from a future state of disease of a still more formidable character. I would particularly enforce this remark, in regard to all cases of dysmenorrhœa, which are too apt to be treated as a mere monthly inconveniency, without sufficient reference to the nature and tendency of the complaint; we ought, on the contrary, to be satisfied with nothing short of totally subduing the disease.

"For the case of inflammation, in which a false membrane is apt to form, judging from analogy, I should imagine that a full course of mercury might cure. I am not aware that it has been tried. But considering the painful character of the affection, and its usual effect in inducing sterility, it appears to me that this remedy deserves to be submitted to the test of experiment.

"Otherwise, I am not aware of any mode of treatment, except that adapted for inflammation and pain, in general; only, I would suggest, that the antiphlogistic measures should not be adopted during the attack merely, but should be continued long afterwards; for the formation of the false membrane is the more immediate effect of inflammation, whilst its detachment and expulsion are more properly the consequence of contraction of the uterus itself." 140.

We have thus given a very full analysis of the first part of our author's work, embracing "the Disorders incident to Female Youth." In a succeeding article, we shall take up the important subject of puerperal diseases. In the mean time, we have given sufficient specimens of the minute and valuable observations of this talented author, to induce the practitioner to possess himself of the original work, which is, in this edition, put into a much more systematic and available form than in Dr. Hall's preceding volumes.

Report of an Inquiry into the Value of Mediate Auscultation, as a Method of Diagnosis in Inflammations of the Pleura, Lungs, and Bronchia.—By William Stack, M. D. Physician to Sir P. Dun's Hospital.

Auscultation is making rapid advances in the sister kingdom—and the value of it, as a means of diagnosis, is not now attempted to be questioned, except in holes and corners, by old drivellers who have gone past the period of learning any thing, or by lazy routinists who will not take the trouble of increasing their knowledge, which, indeed, they think is quite unnecessary. The author of the above extended paper is not, however, inclined to assert that, by means of auscultation and percussion, we can always distinguish between inflammation of the mucous, serous, and parenchymatic structures of the thoracic viscera, in acute inflammation of these parts, and in an early stage, but the case is very different when the disease has been somewhat protracted. Thus, a patient presents himself with dyspnœa which has lasted for several days, having been preceded by pain in some part of the chest. On percussion one side returns a dull sound, but does not appear either dilated or contracted. On examination with the stethoscope, the respiratory murmur is absent all over that side of the chest, with the exception, perhaps, of those parts where the root of the lungs is situated, and a few inches down the spine. There is neither bronchophony (except in the superior parts) nor ægophony.

What is to be the diagnosis? Is the disease pneumonia or pleuritis?

"I say it is impossible to determine, even supposing the minor signs to be present, such, for example, as the communication of the heart's action over the affected side, which some will have to be a sign of the advanced stage of pneumonia, but which may also depend on other causes, such as dilation with hypertrophia of the heart. The disease may be either acute pneumonia or acute pleuritis, or it may be chronic pneumonia or chronic pleuritis.

"It is true that the nature of the sputa may afford us assistance in this case, but it must always be remembered that the appearance of expectoration is more variable in chronic than in acute inflammations; and that both in chronic pneumonia, and chronic pleuritis, it very frequently assumes the form of the expectoration of catarrh." 93.

The following case is adduced in illustration. We shall considerably abridge the narrative.

A man was admitted into hospital on 26th May, who had been seized fourteen days previously with sense of oppression and tightness in the left side of the thorax. He had slight pain in the left side, but not, at that time, so as to impede inspiration, or prevent lying on either side with ease. Latterly he could rest on the left side better than on the right. He was bled at the commencement, and had little or no expectoration—but at present it is abundant and catarrhal.

"Exploration of the chest gave the following result: no dilation or contraction of the affected side; dull sound on percussion over the entire of that side; no respiratory sound whatever on the anterior part, except just at the junction of the clavicle with the sternum when there was bronchial respiration; no ægophony, no bronchophony. On the posterior part there was an indistinct respiratory murmur down the spine to the eighth rib. The alteration of the position of the patient produced no change in the results obtained. On the 17th the respiratory murmur was faintly audible on the anterior of the thorax, on a level with and below the apex of the heart; no ægophony; the sound on percussion less dull than at the superior parts. On the 20th, the auscultatory signs were the same as on the 17th, but the expectoration had been presenting various appearances since his admission; sometimes it was liquid, transparent, ropy, and covered with a frothy surface sometimes more dense, opaque, and inclining to a greenish cast; occasionally (as on this day) approximating to the rusty colour of pneumonic sputa. 21st, Bronchophonia in several places down the spine, along the clavicle and spine of scapula, and those places where it is generally audible in health. The sound, however, not so remarkable as at the healthy side; he now lies on either side, or on his back, with perfect ease. In a few days he left the house, having no complaint, and the respiratory murmur becoming daily more distinct." 94.

This case was treated as one of pleuritis, effusion being supposed to have taken place before he entered the hospital. But the auscultic signs were equally indicative of pneumonia or pleuritis. One of them, indeed, (the return of the respiratory sound at the *inferior part*) seemed rather to point to pneumonia than pleuritis. Dr. S. has not taken into the account the possibility of the disease being bronchitis, because it very rarely happens, though not always, that in this disease the chest returns a dull sound on percussion. An interesting exception to this general rule is related at page 96 of the volume. The bronchial inflammation had been very acute and rapid, producing a state approximating to asphyxia, while the effusion of fluids into the various branches of the bronchia and air-cells rendered the lungs so dense as to communicate the shock of the heart's action to all parts of the chest, as in hepatization, depriving the lung, at the same time, of all respiratory murmur, or sonorous percussion. On dissection, no inflammation whatever was found in the substance of the lungs, but the air-passages were charged with viscid fluid. Of all diagnostic signs in inflammatory affections of the thoracic viscera, Dr. S. depends most on the *colour of the countenance.*

"Each of the three inflammations, I speak of the acute forms, pleuritis, pneumonia, and bronchitis, possesses, when the disease is at all severe, the characteristic of a peculiar colour of the countenance. In pleuritis it is either of a flushed and florid, or of a natural hue. In humid* bronchitis it is of a colour more or less approaching to a blue, according to the severity and extent of the inflammation. In pleuritis the lips are of a florid red; in humid bronchitis they are of a blue colour; the flush of pneumonia is altogether different from either; it is, as it were, made up by an intermixture of the two shades, but quite distinct from each; it is also less remarkable in particular isolated parts than the colour arising from humid bronchitis and pleuritis; in both these the cheeks are often flushed in a circumscribed manner, the lips are always remarkably coloured; but in pneumonia the lips and cheeks are scarcely more suffused than the adjacent parts, and the flush, though sometimes circumscribed, appears more generally diffused. It seems to me not very difficult to account for this variety of colour in these different diseases; in acute bronchitis, especially where it prevails epidemically, the affection is commonly of a generally diffused nature, and extends over a considerable portion of the lungs (at least in this country,

* "I use the term humid for the purpose of showing that these observations apply to that form of bronchitis, (which is by far the most frequent,) in which an increased secretion takes place from the mucous membrane."

although from the clinical records in other places the contrary seems to be the case;) the nature of the morbid change is such as to afford a very considerable obstruction to the transformation of the venous into arterial blood; the consequence is, that blood very little differing from venous is circulating in the arterial system; this easily accounts for the bluish cast of the countenance. In pneumonia the affection is not, in general, so universal, and in but comparatively few instances does it happen that both lungs are engaged; in either case the progress of the complaint is not so rapid as to afford an instantaneous impediment in the affected part to the act of hematosis; but the blood which circulated in the pulmonary artery and veins through the affected part is, up to a certain stage of the disease, partially converted into arterial blood; this is poured into the left side of the heart, and there mingled with the perfectly formed arterial blood coming from the sound portion of the lungs, producing but a slight variation from the colour of true arterial blood. It is obvious, therefore, that except in cases of a violent nature, or where the inflammation occupies a considerable extent of lung, the alteration which the colour of the countenance undergoes must be but slight, and that this alteration is such as would arise from the circulation of blood not bluish, as in the case of bronchitis, but rather of a dull red, or brick colour. In pleuritis, while the disease occupies one side only, scarcely any obstruction is offered to the transformation of venous into arterial blood; for the pulmonary tissue and mucous membrane being unaffected, the process of hematosis will be perfected in all the parts of the lungs which are permeable by the air. If indeed the affection be general over one side, or if the inflammation be so violent that a copious effusion is suddenly produced, then it may happen that the lung will be compressed or folded on itself towards the root, and remain nearly inoperative in that process; but still all the blood which *is* transmitted through this lung will be properly transformed, and so no blood can pass to the left side of the heart but such as possesses the genuine florid colour of arterial blood. If therefore there were no accompanying fever, the countenance would remain, as far as colour is concerned, in a perfectly natural state; but inasmuch as there generally is a considerable degree of concomitant fever, and that too of the angiotenic form, (that is, where the circulating system is chiefly engaged,) it is evident that the capillary system must be injected with a florid blood, and so produce that floridness of countenance which is peculiarly remarkable in cases of violent pleuritis. If both sides are simultaneously affected, a case which rarely occurs, then the obstacle opposed by the pleuritic effusion to the dilatation of both lungs causes a very material obstruction to the transformation of the venous into arterial blood, and blood will pass to the left side of the heart, notwithstanding the compressed state of the lungs, which has not been completely submitted to the action of the atmosphere; the countenance, therefore, will assume an appearance more or less similar to that of pneumonia or bronchitis, according to the severity of the complaint. What I have now said applies to these affections only when in an uncomplicated form; when they are complicated with each other the flush peculiar to each is of course modified by that attendant on the superadded affection; for example, in pleuro-pneumonia, (that is, where inflammation of the parenchyma of the lungs is complicated with pleuritis,) we may expect to find the dusky lurid red of pneumonia assuming the place of the florid cast of pleuritis, because a moderate degree of inflammation of the lung will produce a greater deviation from the natural colour of the countenance, than the same degree of inflammation of the pleura." 101.

The above passage contains interesting observations. In the succeeding pages, Dr. S. enters into a rather too minute inquiry respecting the priority of inflammation in one or other of the tissues above mentioned. We cannot follow him in this investigation, but refer those who are curious on this subject to the volume itself.—*Dub. Hos. Rep. &c.*

Observations on the Danger of Hæmorrhages arising from the Rupture of Varices on the Inferior Extremities. By A. N. Gendien, Editor of the Journal Général de Méd.

Professor Boyer, whose works have so greatly contributed to the advancement of surgery, makes the following remark in relation to varices on the extremities: "one or more varices may be ruptured by the pressure of the accumulated blood, *without occasioning any other inconvenience than a copious hæmorrhagy, which is not even attended with a proportionate debility*, as we have frequently observed."*

An assertion thus positively made by one who ranks so deservedly high in his profession, and whose opinions are referred to as authority in all cases, may, if unfounded, be productive of much mischief, by inducing physicians lightly to regard an accident, which is often dangerous, and may even be productive of fatal consequences, as the following cases will prove.

P. Forestus (lib. xxix.) relates the case of a woman in the eighth month of utero-gestation, who had varices on her extremities; one of them situated near the ankle, ruptured and discharged a large quantity of blood—more than three pounds were lost when syncope was induced. Forestus found her almost in articulo mortis. With the concurrence of a surgeon who attended with him, he applied burnt linen to the ruptured vessel, and thus arrested the hæmorrhage; the woman was restored to life, *ab inferis in vitam revocasse visi*

* Traité des Med. Chirurg. Tome II. p. 248.

sumus; and was happily delivered at the usual period.

A similar case is recorded by L. Sigis Grassius, of a woman whose extremities had long been covered with varices. A vein opened behind the malleolus, and threw out blood in such quantity, that her life was only saved by immediate recourse to surgical assistance. *Ephem. Acad. Nat. Curios.*

In these two instances, the veins were not opened by the ulcerative process, but directly ruptured. A case is related by J. Mays, in which an ulcer formed upon the varix, accompanied with tumefaction of an erysepelatous character; having resisted every mode of treatment, it ultimately perforated the vein, and gave rise to such a profuse hæmorrhage, that the patient lost in a short time, more than two pounds of blood—it was arrested by means of compression with a firm plaster.

It is unnecessary to insist upon the danger which may result from the loss of such large quantities of blood; if there were any doubt on this subject, it would be removed by the following cases.

M. Monfalcon, in the article Varices, in the Dictionnaire des Sciences Médicales, Tom. LVII. p. 12, relates that M. Lombard has seen a hæmorrhage of this nature attended with fatal consequences.

M. N——, 56 years of age, had been frequently troubled with hæmorrhages in his youth, and at a more advanced period, with those of a hæmorrhoidal character. He now carelessly wore a laced stocking, in order to restrain the growth of some enormous varices, so superficially seated that it was difficult to conceive how their parieties could resist the slightest motion. Hæmorrhage in considerable quantity, had on several occasions been the consequence of their rupture, but had always been arrested by the application of pressure.

On the morning of the 10th May, 1807, this gentleman being alone in his apartment, was attacked by a hæmorrhage, which, according to appearances, must have suddenly become very profuse, inasmuch as the blood was traced through three chambers, which he traversed in order to reach the one in which he was found dead. The floor of one large room was entirely covered with blood.

At the session of the Royal Academy in July, M. Amussat presented an anatomical preparation of the varicose leg of a person who died in a few seconds from rupture of one of the enlarged veins. On dissection there was found on the internal and middle part of the left leg, a varicose tumour of the size of an egg. Lower down the saphena presented some dilated points. Behind the malleolus an ulcer was observed, with a small opening in the centre, from which the blood had flowed. Following the course of the saphena, it was remarked, 1st, That the accompanying lymphatics were much enlarged.

2d, That the anastomases with the deep seated veins were very free, and the latter greatly increased in size, with thickened parietes resembling the arteries. When divided, they remained open in the indurated cellular tissue which surrounded them, like the branches of the vena portæ in the liver.

3d, That the valves were almost entirely obliterated. The blood could be made to flow with great facility in a retrograde direction—a circumstance which explains the rapidity of the hæmorrhage.

4th, That the varicose tumour on the internal and middle part of the leg, was not formed by a dilatation of the saphena, but by a small vein, enormously enlarged, and folded upon itself after the manner of the vesiculæ seminales. This vein formed a kind of arch, opening by both extremities into the saphena.

5th, In the part corresponding to the ulcer, there was observed a venous dilatation, which did not depend upon the saphena, but was formed by one of its anastomasing branches, arising from the back of the foot; so that the opening from which the blood had flowed was not seated on the saphena, but upon the dilated portion of the vein just mentioned.

After this communication of M. Amussat, another member of the academy, M. Murat, surgeon to the Hospice de Bicêtre, related a similar case which had fallen under his observation occurring in a female in the eighth month of her pregnancy. This woman had a small varicose ulcer in the vicinity of the ankle; blood had often issued from it, sometimes very profusely, but had always been easily arrested by pressure. On one occasion, the hæmorrhage having returned, she endeavoured in vain to suppress it; a surgeon who was sent for, met with no better success, and when M. Murat arrived, the woman was dead.

It follows from all these facts, that rupture of varices on the extremities, may produce a hæmorrhage very rapidly fatal, and which cannot be suppressed by simple compression of the part, a method which was ineffectually tried in the two cases last mentioned.

Before speaking of the treatment of these hæmorrhages, let us briefly advert to the circumstances which may render them so dangerous.

M. Lifrauc whose mode of operating in these cases by excision is already known to our readers, has observed in those operations, and in amputations of varicose limbs, a circumstance, which goes far to remove the obscurity of this subject. It is, that the blood always flows, and frequently in abundance, from the superior portion of the vein, while its inferior extremity furnishes a very small quantity. In amputations, when the veins are varicose, we are obliged to tie them, in like manner with the arteries, which is not the case when they are in a healthy condition.

We may infer, from these remarks, that in hæmorrhage arising from large varices, the blood comes from the superior part of the vein, and we see at once why an accident which depletes so rapidly the primitive iliacs, with which the saphenæ ultimately unite,

should be productive of such dangerous consequences.

It is not our intention to give in this place the anatomical history of varices, this subject forms an entire chapter in our work on inflammation; we wish, however, to call the attention of the profession to two circumstances pointed out by M. Amussat in the preparation presented by him to the academy. The first is, the dilatation of the small anastomasing vessels which branch off from the enlarged trunk, and unite with it again; and the second, the obliteration of the valve, in varicose veins. It is owing to these morbid changes, that the blood is permitted to flow in a retrograde direction, and that the varicose vessel becomes the point of confluence to the blood from the surrounding deep seated veins, as soon as it finds an exit externally.

In the discussion which arose in the academy, upon the communication of M. Amussat, it was determined, that the best mode of arresting such dangerous hæmorrhages, would be to make compression upon the whole extent of the limb, by means of a bandage and compress fixed upon the varicose vien. This plan would doubtless succeed, but it requires an experienced hand, and a length of time, during which, the loss of blood may be attended with unpleasant consequences. We beg leave to propose another method of undoubted efficacy, and requiring no skill on the part of the operator; as it will allow time for the arrival of a surgeon, by whom a more methodical compression may be substituted, it should be communicated to all who are exposed to accidents of this nature. This plan consists in the application of a simple ligature around the limb above the bleeding orifice, sufficiently tight to suspend the arterial, and consequently the venous circulation.

MAMMA SITUATED ON THE LEFT THIGH.

By M. Robert. Jour. de Physiologie, &c.

Among the anomalies which we so frequently meet with in the organization of the human species, there is perhaps none more curious and more uncommon, than that of a woman suckling her child at a mamma situated on the external part of the thigh, four inches below the great trochanter.

Having been informed, some years since, by the interne of the hospital at Marseilles, M. Rolland, now physician at Ailes, that such a woman resided in his neighbourhood; I expressed a desire to see her, and examine for myself, the particulars of this lusus naturæ.

This woman, Thérèse Ventre, resides at this time at Marseilles, near St. Laureat, is 50 years of age, of a tall and slender form, is descended from a mother who had three mammæ, two on the right, and one on the left breast, and is one of seven children who were brought up indiscriminately upon either of the three mammæ.

Thérèse married in her fifteenth year, and had one child, succeeded by three abortions. Two days after her *accouchment*, she perceived an itching sensation, in a small fleshy excrescence, which she had always considered as an *envie*, and which was situated on the middle and external part of the left thigh; this was followed by the discharge of a whitish fluid in considerable quantity. Disquieted by a circumstance so unusual, Thérèse had recourse to her mother, who soon ascertained the milky character of the discharge, and that the supposed *envie* was a real nipple situated upon a round and elastic body, about the size of a small orange.

To convince her daughter of the reality of this extraordinary occurrence, she applied the child to the nipple, who took it without hesitation, and continued to suck as at the breast, for the space of nine months; when from the abundance of milk in the latter, Thérèse was induced to take a child, belonging to the sculptor Galinier, (a distinguished artist of this city,) and three others in succession; she having constantly a large supply of milk during six years. Her own son was brought up at the mamma on the thigh till he reached his thirty-third month.

This woman assured me, that at the approach of the menses, she perceived the same sensations in this mamma, as in those on the breast, and that it presented all the phenomena of which the latter are ordinarily the seat.

On the 25th of August, 1824, I examined Thérèse for the second time. The nipple on the thigh preserved the size which it had six years ago, notwithstanding that the menses had ceased; it is endued with a marked sensibility when excited, and appears also to be supplied with a great number of lactiferous tubes; the gland has, however, entirely disappeared, leaving no trace of its former existence.

The facts which I have related, are those which I have myself witnessed, or which I have gathered from the subject of the case, whose narration there is the less reason to suspect, as she has always attached a degree of shame to this malformation. Desirous only of truth, I have abstained from any remarks of my own, and have appeared the strict historian of a fact, which may, perhaps, be deemed worthy to be preserved for the curiosity of posterity.

Case of a Fibrous Tumour growing over the transit of the Ninth Dorsal pair of Nerves.
By M. Monod. Bull. de la Soc. Anat.

A man, 63 years of age, of a robust constitution, had always enjoyed good health, notwithstanding the laborious duties to which he was subjected, at first in the army, and afterwards as a labourer in the quarries. In March, 1826, he complained of a slight difficulty in elevating the left leg, which increased gradually; the foot trailed along the ground, and struck against any little inequalities on its

surface; sometime after, lancinating pains were felt in the diseased limb. These symptoms appeared after the same manner, at a somewhat later period, in the right inferior extremity. He laboured under obstinate constipation; the bladder was unaffected.

In the month of July, the patient who, till this period, had continued his ordinary avocations, was obliged to relinquish them altogether. He entered St. Louis, and was put upon the use of vapour baths. After remaining there for several months, he was discharged, unable to stand without the assistance of crutches. The disease from this time, advanced rapidly; voluntary motion in the left leg, became altogether impossible; lancinating pains invaded the lower half of the trunk, and increased in intensity, and convulsions supervened in paroxysms on the left side. The limb during their continuance was strongly extended, and all the muscles agitated by a convulsive trembling. This state lasted several seconds, sometimes half a minute; the severity of the pain occasioned piercing cries, and the paroxysms became more and more frequent. He entered the Bicêtre 15th December, and on the 21st was transferred to the Infirmary. I saw him in the beginning of January, 1827. Extended upon his back, he could neither raise himself, nor sit up in bed when raised; the cramp had now extended to the right leg, which notwithstanding, still performed some feeble motions. The evacuation of fœces was very laborious and painful, and the bladder began with difficulty to expel its contents. Towards the end of January, all voluntary motion was destroyed, the dysury increased, and symptoms of cystitis developed themselves; the hypogastric region became swelled and excessively painful, the urine flowed *par regorgement*, it had a red colour, a strong ammoniacal odour, and was loaded with purulent cellular remains. The motions of cough and respiration occasioned the most acute suffering; the tongue dry and red in the beginning, was covered with a black coat, the spasms rapidly succeeded each other, and the lower half of the trunk was unceasingly traversed by the most atrocious pains. A very rigorous antiphlogistic treatment had entirely failed, and the patient died on the 4th of February.

The body was opened twenty-four hours after death. The contents of the cranium presented no perceptible alteration. A tumour of an oval form was found in the spinal column, on a level with the eighth and ninth dorsal vertebræ, in the cellular tissue which unites the arachnoid membrane, to the pia mater. It was situated on the left side of the medulla, its large extremity being below, and was one inch and three lines in length, and four lines in its greatest diameter. It was divided by two transverse fissures, into three lobules, united by narrow pedicles, so that there appeared at first sight, three distinct tumours. These lobules were rounded, embossed and diminished in size from below upwards. The inferior extremity adhered to the foramen which gives passage to the ninth dorsal pair of nerves, the upper part was continuous with one of the filaments of the anterior left branch of the same nervous pair. The superior fissure was traversed by the dentated ligament; the inferior, by one of the posterior branches of the nerve just mentioned; the other filaments thrown backward by the tumour, were united with it at the foramen, they were in a healthy condition. One of the anterior branches we have just seen was lost in the substance of the tumour, the others applied over its anterior and internal surface, were flattened, transparent, and so nearly obliterated, that they could scarcely be followed to the spinal foramen. I omitted to examine the ganglion and nerve after its exit.

The tumour was of a fibrous structure, was contained in a distinct membranous envelope, particularly visible on the largest of the three lobules. The spinal marrow was slightly pushed to the right, and a little softened about the middle of the tumour. The investing membranes did not present any sensible alteration, with the exception of a slight adhesion towards the inferior extremity of the tumour. The arachnoid cellular tissue was distended with gas. The bladder was much enlarged, and extended three inches above the symphysis; its coat had acquired a considerable thickness; the mucous membrane was of a violet gray colour, and ulcerated in numerous points, particularly in its upper portion; the urethra also presented traces of inflammation; the rectum was of a violet red colour, and its mucous membrane completely destroyed to the extent of an inch above the sphincter.

From the Edinburgh Medical and Surgical Journal.

Recherches Physiologiques, &c. Physiological and Chemical Inquiries on Digestion. By MM. Leuret and Lassaigne. Paris, 1825.

Die Verdauung nach Versuchen, &c. Experiments on Digestion. By Professors Gmelin and Tiedemann of Heidelberg. 1825. Part I.

Recherches, &c. The same Work translated into French. By M. Jourdan. Paris, Part I. 1826, Part II. 1827.

The Heidelberg Professors have not thought it necessary to make any personal researches regarding the muscular action of the stomach, but have simply adopted the conclusions originally drawn by Philip, Brodie, and Broughton, and more recently modified by the experiments of MM. Breschet and Mylne Edwards. According to the results obtained by the two last physiologists, the muscular coat of the stomach, under the influence of the pneumogastric nerves, pushes forward towards the pylorus the portions of food which successively undergo chymification in contact with the villous membrane;—the effect of the division of the pneumogastric nerves in retarding digestion is owing merely to the muscular motions being sus-

pended, by which the outer layers of the food are propelled :—and the usual rapidity of digestion is restored by any suitable irritation applied to the ventricular ends of the divided nerves, more particularly, however, by galvinism.

But MM. Leuret and Lassaigne have resumed and varied the experiment of the division of the pneumogastric nerves; and they state as the result of their inquiries, that the only obvious and necessary effect of the operation is to paralyze the sphincter muscle of the cardiac orifice of the stomach, and that the retardation of digestion is simply owing to the food being expelled into the œsophagus by the action of the stomach. For they found that when five or six inches of each pneumogastric nerve were cut away in the neck of a horse, and the gullet was tied after the animal was fed with oats, digestion went on as rapidly as usual: in eight hours one half of the oats had passed the pylorus, what remained in the stomach was all converted into chyme, and the lacteals were every where distended with a white fluid possessing the physical and chemical properties of chyle. This experiment was frequently repeated, and invariably with similar results.

Professors Tiedemann and Gmelin conceive, from a few experiments on dogs, that the division of the pneumogastric nerves also alters the chemical constitution of the gastric juice, namely, by depriving it of its acidity. This appears too important a fact to be decided by the few trials they have made; and in the mean time it is rendered doubtful by the perfect mode in which, under the same circumstances, digestion was found by the Parisian physiologists to be carried on.

The *Gastric Juice*, which has been made so frequently the subject of inquiry, and with such discordant results, has been examined anew both by Leuret and Lassaigne, and by Tiedemann and Gmelin; and our information as to its properties and agency in digestion has in consequence been rendered much more precise. Under this head the most extensive and valuable researches unquestionably appear to be those of Tiedemann and Gmelin.

MM. Leuret and Lassaigne allege they have invariably found the gastric juice to be acid; they state its component parts to be water, hydrochlorate of ammonia, chloride of sodium, mucous, an animal principle soluble in water, phosphate of lime, *lactic* acid; and they impugn the accuracy of the experiments of Dr. Prout, who, it is well known, was lately led to infer that the free acid evolved during digestion is the hydrochloric.

The Heidelberg physiologists, on the contrary, inform us, that if the contents of the stomach be examined after a long fast, and without any stimulus being applied to its villous membrane, the fluid found in it is a clear, ropy, faintly opaque liquid, which is almost or entirely destitute of acidity. But if any stimulus, even of the simplest kind, is applied to the inside of the stomach, then the fluid secreted is uniformly acid, and the degree of acidity appears to be proportional to the degree of the stimulus. Pure gastric juice they found to be best procured by making animals swallow quartz pebbles after a long fast, and killing them in an hour. It was generally a grayish white, ropy, and decidedly acid. It contained, as procured from the dog and the horse, some mucous, osmazome, and salivary matter, alkaline sulphates and hydrochlorates, the alkali being chiefly soda, phosphate, and muriate of lime, other salts in minute proportion; and the acidity was owing to the *hydrochloric and acetic acids* in the dog, and to these conjoined with the *butyric acid* in the horse. That part of their chemical inquiries which regards the free acids seems to have been conducted with great care; and certain criticisms of Leuret and Lassaigne have given occasion to an appendix consisting of a defence of themselves and of Dr. Prout, which we cannot help thinking is quite satisfactory. As the lactic acid of Leuret and Lassaigne is now acknowledged by Berzelius to be a variety of the acetic, all parties may be understood to be agreed as to the existence of that acid in the gastric juice. The researches of Prout, Children, and Graves, confirmed as they have been so amply by Tiedemann and Gmelin, likewise establish the presence of the hydrochloric acid. The existence of the butyric is more doubtful.

When the secretion of the gastric juice is elicited by its natural stimulus, food of various kinds, it has been remarked by Leuret and Lassaigne, as well as by Tiedemann and Gmelin, that the chymous mass is invariably acid, and that its acidity is owing to the acids mentioned above; and Tiedemann and Gmelin farther maintain as the result of their experiments, that its acidity is greatest when the food is most difficult of digestion. In dogs and cats the greatest acidity was remarked when they were fed with coagulated albumen, fibrin, bones, gristle; it was less when they were fed on starch, gelatin, potatoes, rice; and when they were fed with liquid albumen, the alkalinity of the food was nearly sufficient to neutralize the acidity of the gastric juice. The quantity secreted during digestion seems to be very great; Leuret and Lassaigne having found, that when the gullet of a horse was tied so as to prevent the secretions of the mouth and gullet from entering the stomach, a full meal of oats became completely saturated with juice in four or five hours.

So much with regard to the nature and composition of this fluid. Its power of dissolving the food has likewise been made the subject of experiment by the Parisian and by the Heidelberg physiologists; and they agree in confirming the statements of Spallanzani, Stevens, Gosse, and others, and in contradicting the later results of Montégre, who imagined he found that the gastric juice does not act out of the body, and whose opinion has since regulated that of the French school generally. MM. Leuret and Lassaigne remark-

ed that the fluid procured by long sponges from the stomach of a duck while fasting, when kept upon bread crumbs at a temperature of 88° Fahr. soon divided them into minute particles, and formed with them a homogeneous mass precisely like chyme; and that when flesh was mixed with the gastric juice of the dog, it was quickly softened and lost weight. The observations of Tiedemann and Gmelin are more detailed. The fluid found in the stomach of the dog during the digestion of bones and coagulated albumen was made the subject of experiment, and comparative observations were made with water and with milk. Various kinds of food were tried, such as bread, coagulated albumen, raw flesh, boiled flesh; and in every instance it was observed that the bread was broken down in the course of eight or ten hours into a pap, and the surface of the beef and of the albumen was converted into a pulp, which could be easily scraped off. It is evident that Montégre failed in procuring similar results, because the fluid with which he operated was not gastric juice, secreted in consequence of the application of some stimulus to the stomach, but a mixture of saliva, the mucous of the gullet and the fluid which Tiedemann and Gmelin found in the stomach while empty of food and not stimulated.

The solvent power of the gastric juice, therefore, is now placed beyond all question. It is only the German experimentalists who have thought of trying whether this property is accounted for by the composition of the fluid; and of attempting to accomplish, by means of the simple substances contained in the gastric juice, the same solution or digestion which is effected by the gastric juice itself. Their experiments, however, are not complete. They have remarked, that dilute acetic acid, dilute hydrochloric acid, a weak solution of acetate of ammonia, and a solution of hydrochlorate of ammonia, severally dissolve more or less of most animal substances which are used as articles of food. They have not tried their effects conjunctly as they exist in the gastric juice.

Although these experiments, however, are not satisfactory, no doubt can exist that the gastric juice possesses the power, as a mere chemical agent, of effecting the solution of a great variety of kinds of food. Whether this chemical property is, with the aid of the churning action of the stomach, sufficient for effecting the process of chymification remains now to be considered. The mucous crypts of the stomach evidently pour out an abundant mucous; but it is probable that this only serves for lubricating the stomach and food, and perhaps for diluting it. It is impossible, indeed, to collect the mucous of the stomach, so as to ascertain whether or not it possesses also the power of dissolving vegetable and animal matter; but this certainly appears improbable. The bile has no share, as has been imagined by some physiologists, in converting the food into chyme. According to the late experiments of Brodie and Mayo, and those presently to be mentioned of Leuret and Lassaigne, and of Tiedemann and Gmelin, chymification goes on perfectly in animals fed after the biliary duct has been tied. There is no other apparent agent, therefore, in the process, except the gastric juice and the muscular action of the stomach. It appears to us, however, that the question should have been set at rest by subjecting the food during artificial digestion to a process of churning, equivalent to that to which it is subjected by the stomach, and then comparing the chemical changes which take place with those produced on the principles contained in the food after they have been subjected to natural chymification.

The changes produced by natural chymification have received a little of the regard of MM. Leuret and Lassaigne, and have been studied with great care by Professors Tiedemann and Gmelin. It is not easy to present in moderate compass an outline of the results which they have obtained; but the following summary will be found to contain all that is most material. The animals chosen for these experiments were dogs and horses. Liquid albumen forms under the natural process of digestion a homogeneous fluid, in which the albumen remains quite unaltered; and this sort of chyme passes the pylorus more rapidly than any other. Coagulated albumen is much more slowly dissolved, and the fluid formed possesses the properties of coagulated albumen dissolved in acetic acid. Fibrin and vegetable gluten undergo a similar change. Gelatin is converted into a clear brownish fluid, in which neither gelatin nor albumen can be discovered. White cheese forms an opaque, dirty white fluid, containing much animal matter, which, however, is neither casein, gelatin, nor albumen. Starch is gradually dissolved, and loses its reaction with iodine, being converted into sugar and amidine. The results obtained with compound articles of food, such as milk, beef, bread, and oats, in various states of mixture, were such as the foregoing facts would lead one to anticipate. These need not be particularized here. Bones gave a liquid which contained not only animal matter, but likewise a large quantity of lime. The general result of the whole experiment is, that all the animal principles, except liquid albumen, undergo a material change during their solution in the gastric juice, and that the change generally consists in their being made to approach nearer in nature to albumen. The statement of Dr. Prout, that albumen is never found in the stomach, or higher up than the duodenum, appears to be an error. It is to be regretted that but little attention has been paid by both the Parisian and Heidelberg experimentalists to the mode in which unazotized vegetable substances are animalized, which appears one of the most important and least understood of all the changes effected by the process of digestion. The experiments before us are unsatisfactory, and in some respects even contradictory. For example, it does not seem to

be settled that fecula is animalized at all in the stomach; for, contrary to what has been stated on the authority of Gmelin and Tiedemann, it has been found by Leuret and Lassaigne to be transmitted through the whole alimentary canal unchanged, and not to form any chyle, unless it has been mixed with azotized food. According to the latter, wine and spirituous liquors are acidified during the progress of digestion.

During the chemical changes which digestion effects on the food various gases are disengaged. Chevreul found the gas in the stomach to be composed of carbonic acid, oxigen, azote, and hydrogen. Leuret and Laissaigne have found it to consist, as taken from the dog's stomach, of carbonic acid forty-three per cent. azote thirty-one, carburetted hydrogen twenty, oxigen four, sulphuretted hydrogen two. Tiedemann and Gmelin have also found the last gas in the ox and in the sheep.

The next subject which comes under notice is the change which the chyme undergoes in the intestines. Here it is necessary to set out with an account of the nature and uses of the various fluids which are added to the chyme after it has passed the pylorus. These are the bile, pancreatic juice, and secretion of the intestinal mucous membrane.

We have first then to consider the constitution and uses of the *Bile*. In discussing this subject MM. Leuret and Lassaigne begin by adopting very nearly the analysis made some time ago by Thenard; according to whom it contains resin picromel, and yellow colouring matter as its organic ingredients, and the following salts, phosphate, muriate and sulphate of soda, muriate of potass, phosphates of lime and magnesia, free soda, and a little iron. Since this analysis, cholesterine, the chief principle in biliary calculi, has been detected in bile by Chevreul, its discoverer.

But Professors Tiedemann and Gmelin have analyzed it anew with great care; and the result has been, that many other organic principles have been discovered in it, and that it proves to be the most complex of all the animal fluids. They agree very nearly with Thenard as to the saline ingredients, and also with Chevreul as to the presence of cholesterine, which they appear to have detected about the same time as that chemist, and without being aware of his discovery. But they have found the picromel of Thenard to be a compound substance, consisting of resin of bile and a crystalline principle, which has a very sweet and faintly bitter taste, like liquorice, possesses all the properties of sugar, except that of fermenting, contains azote, resembles very exactly the sugar of gelatin procured by Braconnot on treating isinglass with sulphuric acid,—and is one of the constituents of the bile which has the property of rendering the resin soluble in water. They have allowed it to retain the name of *picromel*. Sugar of bile would have been a more appropriate term.

The next addition they have made to the analysis of the bile is the discovery of a principle resembling the asparagin found by Vauquelin and Robiquel in the asparagus. When pure it is in the form of colourless crystals, which are six-sided prisms, terminated by four or six-sided pyramids. They are soluble in about sixteen parts of temperate water, insoluble in pure alcohol, very soluble in nitric acid, but without undergoing any decomposition, fusible, and they have a peculiar fresh taste. The *Biliary asparagin*, as they have called it, is another substance, which, like picromel, renders the resin soluble in water.

Besides the principles already mentioned, Tiedemann and Gmelin have also found in the bile the mucous of the gall bladder, casein, albumen, gliadine, or that part of gluten which is soluble in alcohol, a little osmazome, oleic acid, margaric acid, acetic acid, and a new acid, the *cholic acid*. They have likewise found that the soda contained in it exists in the state of bicarbonate, that there is also a little ammonia, and that there is no sulphuretted hydrogen in it, as Vogel has supposed. Lastly, they infer that it contains a peculiar colouring matter, because re-agents act on bile in the same way as on the colouring principle of biliary calculi; but they have not been able to separate it.

The *Cholic acid* is procured from the alcoholic extract of bile in the form of acicular crystals. It is distinguished from other acids by a sweet taste. In its properties it resembles the uric, pyro-uric and purpuric acids, but it has a stronger affinity for bases.

On the effects of re-agents on the colouring principle of the bile they have made some interesting observations, from which we shall select, as furnishing the best practical test of the presence of bile, the changes caused by nitric acid. When nitric acid is added in small successive portions to bile of every kind, it causes first a green, then blue, next violet, and lastly a red colouration, which becomes yellow on standing, or on the addition of a large excess of acid.

The bile therefore appears to be an exceedingly complicated fluid. Besides saline ingredients of the inorganic class, it contains mucous, albumen, osmazome, gliadine, caseïn, picromel, asparagin, acetic acid, oleic acid, margaric acid, cholic acid, resin, and colouring matter.

We shall next proceed to consider what has been done by the rival experimentalists to determine the long agitated question of the *Uses of the bile*. A few years ago Mr. Brodie was led to infer, from some experiments on the effects of tying the excretory duct of the liver in animals, that the chief purpose of the bile is to separate the chyle from the chyme. For he remarked that when the *choledochus* duct was secured with a ligature, and food then given, chymification went on in the stomach as usual, but no chyle could be found in the intestines, or in the lacteals. The lacteals contained a transparent fluid,

which he supposed to be lymph, and the watery part of the chyme.* Mr. Brodie's observations have been confirmed by the subsequent experiments of Mr. Herbert Mayo, who remarks, that when the *choledochus* duct was tied in the cat or dog, and the animal killed at various intervals after eating, "there was no trace whatever of chyle in the lacteal vessels."†

These results are at variance with the experiments both of Leuret and Lassaigne, and of Gmelin and Tiedemann. The former tied the common duct in a dog, and cleared out the intestines by giving it a little castor oil. Twelve hours after the operation they gave it bread and milk with sugar thrice at intervals of six hours; and eight hours after the last meal it was strangled, and examined immediately. The stomach contained an acid pulp; a very soft, whitish, sweet tasted chyme adhered to the villous coat of the duodenum; this matter increased in consistence downwards; and in the great intestines it was firm, but had the same colour, and was nearly destitute of taste or smell. The thoracic duct was distended with a yellowish red, transparent fluid, which coagulated on standing exposed to the air, and yielded the usual proportion of fibrin, albumen, and saline matters.

The experiments of Tiedemann and Gmelin are much more elaborate and precise. They remarked that the animals were attacked with vomiting soon after the operation, then with thirst and aversion to food; on the second or third day the conjunctiva of the eyes became yellow; the stools chalky and very fetid, and the urine yellow and convertible to blue, and then to red, with nitric acid. Some of the animals died; some were killed. Of the latter some had previously recovered from the jaundice, which was owing to a singular phenomenon also noticed by Mr. Brodie in his experiments, the re-establishment of the duct by the effusion of lymph around the tied part, and the subsequent dropping of the ligature. In those in which the biliary duct continued impervious, the colouring matter of the bile was found in the blood, the serous membranes, the cellular tissue, the coats of the arteries and veins, and in the fat. Like Brodie, Mayo, and MM. Leuret and Lassaigne, they observed that chymification went on as perfectly as in a sound animal. In the small intestines they found nearly the same principles as in sound animals, with the exception of those derived from the bile; and in particular they found in the duodenum, and in contact with its membrane, the soft mucous flakes which some physiologists consider, but as our authors imagine erroneously, to be chyle. The contents of the great intestines were likewise, with the exception of the absence of certain biliary principles, the same as in sound animals, but they had an exceedingly fetid and disagreeable odour. The thoracic duct, and the lacteals in animals fed recently before death, always contained an abundant fluid, which was generally of a yellowish colour. It coagulated, like ordinary chyle; the crassamentum acquired the usual red colour; in short, the only difference between it and the chyle seen in a sound animal was, that after the tying of the choledochus duct it was never white. The reason of the difference appears to be, that the white colour is owing to fatty matter, taken up from the food by means of the bile, which possesses the power of dissolving fat, and probably, therefore, aids in effecting its solution in the chyle at the mouths of the lacteals. Mr. Brodie appears to have been misled by the absence of the white colour, which the chyle usually possesses, but which it is well known equally to want in ordinary digestion, if the food does not contain fatty matter. Professors Tiedemann and Gmelin confine the agency of the bile in chylification simply to the accomplishing the solution of the fatty matter.

The question, therefore, comes to be, what are really the purposes served by the bile? This question has been fully considered by the Heidelberg professors. They conceive, in the first place, that by its stimulant properties it excites the flow of the intestinal fluids, which is clearly proved to be the case by the unusual dryness of the feces in jaundiced persons, and in animals whose duct has been tied. In the next place, it probably stimulates the intestinal muscles to action. In the third place, considering the abundance of highly azotized principles it contains, it probably contributes to animalize those articles of food which do not contain azote. Fourthly, they believe it tends to prevent the putrefaction of the food during its course through the intestines, because when it is prevented from flowing into them their contents appear much farther advanced in decay than in the healthy state. Fifthly, as already mentioned, it probably tends to liquefy and render soluble the fatty part of the food. But, lastly, they are disposed to consider it also as an important excretion.

The arguments by which they endeavour to support this opinion, and more particularly to prove that it is supplementary to the function of the lungs, are ingenious, if not conclusive. They first show, from the relative size of the *vena portæ* and hepatic ducts, from the more intimate connexion of the biliary capillaries with those of the *vena portæ*, than with those of the hepatic artery; and, finally, from the experiments of Malpighi, recently confirmed by those of Simon,—that the bile is a secretion from venous, not from arterial blood. They next prove that a great number of the principles of the bile, such as its resin, colouring matter, fatty matter, mucous, and salts, are thrown out of the body with the feces, in the natural state of the biliary sys-

* Journal of Science and the Arts, xiv. 343.

† Medical and Physical Journal for October, 1826.

tem, or by the urine, and into the cellular tissue, when the excretory duct of the liver is obstructed. These principles all contain a large proportion of carbon, and would appear, therefore, to be intended to carry off the excess of that element which is introduced into the system with the vegetable part of the food, and which is not thrown off by the lungs. In the lungs it is thrown off in a state of oxidation; in the liver it is thrown off chiefly in union with hydrogen, as in the form of resin and fatty matter. That the bile is thus intended to assist the lungs in decarbonizing the blood appears, they conceive, from the following facts. The resin of the bile abounds most in herbivorous animals, whose food contains a great disproportion of carbon and hydrogen. But, what is of more importance, the pulmonary and biliary organs are in different tribes of animals, nay, even in different animals of the same species, in a state of *antagonism* to one another. The size of the liver and the quantity of the bile are not proportionate to the quantity of food and frequency of eating; but inversely proportional to the size and perfection of the lungs. Thus, in those warm blooded animals, which have large lungs, and live always in the air, the liver, compared with the body, is proportionally less than in those which live partly in water. The liver is proportionally still larger in reptiles which have lungs with large cells, incapable of rapidly decarbonizing the blood,—and in fishes, which decarbonize the blood but slowly by the gills,—and above all, in molluscous animals, which effect the same change very slowly either by gills or by small imperfectly developed lungs. It is also worthy of remark, that the quantity of venous blood sent through the liver increases as the pulmonary system becomes less perfect. In the mammalia and in birds the *vena portæ* is formed by the veins of the stomach, intestines, spleen, and pancreas; in the tortoise it receives also the veins of the hind-legs, pelvis, tail, and the *vena azygos;* in serpents it receives the right renal, and all the intercostal veins; in fishes it receives the renal veins, and those of the tail and genital organs. Farther, during the hybernation of certain animals of the class mammalia, when the respiration is suspended, and no food is taken, the secretion of bile goes on. Another argument is drawn from the physiology of the fœtus, in which the liver is proportionally a great deal larger than in the adult, and in which the bile is secreted abundantly, as appears from the great increase of the meconium during the latter months of utero-gestation. The last argument is drawn from pathological facts. In pneumonia and phthisis the secretion of the bile, according to the observations of our authors, is increased; in diseases of the heart the liver is enlarged, and in the *morbus cæruleus* the liver retains its fœtal state of disproportion. In hot climates, too, where, in consequence of the greater rarefaction of the air, respiration is less perfectly carried on than in colder climates, a vicarious decarbonization is established by an increased flow of the bile.

The next fluid whose nature should now be considered is the *Pancreatic Juice.* This, however, has been already discussed. We have already mentioned that Leuret and Lassaigne differ materially from Tiedemann and Gmelin as to the composition of the pancreatic fluid. On the whole, we are disposed to adopt the researches of the latter gentlemen,—who find that it contains a very large quantity of highly azotized principles, namely, albumen, casein, osmazome, and a matter which is turned red by chlorine,—and who believe that one of its uses is to aid in animalizing such vegetable food as does not contain azote.

Besides the bile and pancreatic juice, the chyme receives in the intestines an additional admixture of *mucous*, or other secretions from the intestinal villous membrane. Tiedemann and Gmelin remarked, that in animals which had fasted long, the inner surface of the small intestines was covered with a thin layer of firm mucous, tinged faintly yellow with the bile, and that if pebbles or pepper had been swalled recently before death, a considerable quantity of thinner ropy mucous, and an increased quantity of bile had been poured out; and Leuret and Lassaigne farther observed, that, when the villous coat of the duodenum was exposed and cleaned; and then touched with diluted vinegar; the membrane immediately exhaled a clear fluid, and the *choledochus* duct discharged much bile and pancreatic juice. It must, however, be evidently almost impossible to acquire a correct idea of the composition and properties of the intestinal secretion, as it cannot be procured free from bile and pancreatic juice. Tiedemann and Gmelin found that, in animals which had swallowed pebbles fasting, there was in the intestinal contents more albumen than the pancreatic juice could account for; and Leuret and Lassaigne also found that the matter adhering to the intestines is in similar circumstances faintly acid. Both believe that it possesses the power of dissolving the food, and Leuret and Lassaigne even give experiments from which they wish it to be inferred, that the intestinal secretions, when mixed with the bile, form a solvent for the food quite as active as the gastric juice, if not even more energetic. But their experiments are unsatisfactory, because in the way in which the intestinal contents were collected they could not fail to be mingled with gastric juice.

But whatever may be the agent or agents in the process, it is well known that in their course through the intestines the portions of food which escape chymification in the stomach are gradually altered in nature. The more nutritive articles, such as coagulated albumen, fibrin, casein, gelatin, disappear entirely, according to Tiedemann and Gmelin, before they reach the lower end of the ileum, and when any fecula passes the pylorus unaltered it is converted as in the stomach into sugar and amidine. There is, therefore, a

close analogy between the process of chymification as carried on in the stomach, and the changes which are effected in the small intestines.

On account of the great number and the complexity of the fluids which are added to the chyme after it reaches the intestines, it is very difficult to determine what precise changes are effected on the food after chymification. The chief facts determined by our author are, that the acidity of the chyme decreases as it passes downwards, and at length disappears long before it reaches the *cœcum;* that albumen exists abundantly in the duodenum, and decreases rapidly downwards; and that the casein and other highly azotized principles contained in the pancreatic juice also gradually disappear. The disappearance of the acidity of the chyme is partly explained by the admixture of the alkali contained in the bile; the albumen is lost, because it forms an important element of the chyle; and Tiedemann and Gmelin suppose that the other more highly azotized principles go to convert into albumen the unazotized principles in vegetable food,—an idea which derives some support from the fact that herbivorous animals have a larger pancreas than carnivorous animals, and that a corresponding difference exists between the wild and domestic cat, the former of which lives entirely on animal food, and has the least pancreas.

The changes wrought on the food in the intestines take place chiefly in the duodenum and upper part of the jejunum. This is shown by the visible properties of the contents of the intestines, and by chemical analysis, and it is farther proved by the gases evolved in the small intestines being produced, according to Leuret and Lassaigne, chiefly, if not solely, in the upper part of their course. These gases, according to the same experimentalists, consist of carbonic acid, azote, and carburetted hydrogen, and are the result, not as some think, of putrefaction, but of the chemical changes caused by the digestive process.

Tiedemann and Gmelin maintain that it is an error to suppose, as some physiologists, and very recently Magendie, have done, that chyle is formed, and may be seen in the intestines. White flakes may be remarked floating in their contents, and adhering to their inner surface, and these have been believed to be the chyle on the point of being absorbed. They are certainly not formed, as has been imagined, by the action of the bile on the chyme, for no such effect is caused by the bile on the chyme out of the body; and on the whole, it appears that they are really nothing else than flakes of thickened mucus. Leuret and Lassaigne, however, affirm, that all the essential principles of the chyle exist ready formed in the chyme. The serous part of the chyle is well known to be present. The fibrinous particles, they say may also be detected. It is in vain, indeed, to attempt to discover them by chemical analysis; this cannot be done even when chyle is purposely mixed with chyme—the proportion of other principles mixed with them being too great. But if the chyme be attentively examined with the microscope, globules will be found even in the stomach, but much more numerously in the duodenum, which resemble exactly the fibrinous globules of the chyle. That they are in fact nothing else, appears, they think, from their being seen before the microscope to run together and form fine fibrils, and from the absence of such globules in the gastric juice, bile, pancreatic fluid, and intestinal mucus, so that nothing but the food can yield them. If these remarks shall be confirmed, the Parisian physiologists have certainly added an important fact to our knowledge of the process of chylification.

Having thus seen what light the researches of our authors have thrown on the more intimate changes which the food undergoes in its course downwards till it reaches the end of the small intestines, it now remains for us to point out their leading observations on the ulterior processes which are carried on in the cœcum and lower part of the great intestines.

The *Cœcum* is very generally believed to be as it were a subsidiary stomach, in which the portions of the food which escape assimilation in their rapid passage through the small intestines are detained, and undergo digestion. Professors Tiedemann and Gmelin have added several new facts to the arguments formerly adduced in support of this idea. Thus they have found that the intestinal secretions, when excited by the presence of pebbles, though not acid in the lower part of the small intestines, become distinctly so in the cœcum; that its contents after a meal are also acid, and the more strongly so, the more indigestible the food is; and that albumen, which gradually disappears in the contents of the small intestines, reappears often abundantly in those of the cœcum. The other principal ingredients in the contents of that part of the canal are a matter resembling osmazome, a substance which is characterized by being reddened by various acids and metallic salts, and fatty matter, resin of bile, colouring matter of the bile, sometimes too cholesterine.

The changes which the contents of the cœcum undergo in the *Colon* and *Rectum* have not been particularly examined in either of the works before us. They evidently consist, however, chiefly in the indigestible part of the food, biliary resin, colouring matter, fatty matter, and intestinal mucus, forming a mass which becomes more and more consistent as it approaches the aperture by which it is discharged.

We have in the last place to relate the observations which have been made on the *Chyle.*

Both MM. Leuret and Lassaigne, and Professors Gmelin and Tiedemann, agree in all the material parts of the analysis of the chyle, as executed by the late Dr. Marcet. What follows is an analysis of the researches of the German professors. Chyle is now well known

to consist of a serous and a fibrinous part, the latter of which separates like that of the blood by spontaneous coagulation. The firmness of the coagulum seems to depend chiefly on the quantity of fibrin. Chyle hardly coagulates at all before it has passed through the mesenteric glands. After passing through them, the fibrin begins to appear, and it is much more abundant after the addition of the lymph from the spleen, which contains a very large quantity of fibrin. The quantity is considerably lessened in the chyle of digestion; and it is increased in the chyle formed after the ligature of the *ductus choledochus*. It abounds in the lymph from the lower extremities. In like manner the chyle before passing the mesenteric glands contains no red particles; but it does immediately afterwards, and more particularly after it is mixed with the lymph from the spleen, which abounds with them as with fibrin. These particles are also, like the fibrin, very much diminished in the chyle of digestion, and proportionally to the nutritiveness and digestibility of the food. They are increased by tying the choledochus duct. They abound in the lymph of the lower extremities. The chyle frequently contains fatty matter,—very little or none, however, if the animal is fasting, or has fed on food which does not contain fat,—and most when the food is very fatty, when, for example, butter is mixed with it. The fatty matter is not dissolved, but exists merely in a state of minute division and suspension, giving to the chyle its peculiar white colour; for the colour is removed, and the chyle rendered limpid by ether, which carries away the fatty particles. There is no fatty matter in the lymph of the lower extremities; it is much less abundant in the thoracic duct than in the chyle before it passes through the mesenteric glands, and it hardly exists in the chyle at all when the ductus choledochus is tied. The serum of the chyle is very generally alkaline; in two instances only, was it found neutral, namely, in a dog fed on fibrin, and in a sheep fed on oats. Its solid contents differ in the chyle of fasting animals and in that of digestion. In the horse while fasting the solid part of the serum consists on an average of 76.2 per cent of albumen, 6.7 animal matter soluble in water, and 16 animal matter soluble in alcohol; but after digestion of 61 albumen, 3 animal matter soluble in water, 34 animal matter soluble in alcohol, of which twenty parts were fat. Our authors were not able to decide whether the total amount of solid matter in the serum is increased or diminished during digestion.

The inference drawn by Tiedemann and Gmelin from the foregoing facts is, that the fibrin, colouring particles, and albumen of the chyle, are supplied either not at all by the intestinal lacteals, or at least in much less quantity than by the lymph, which is formed by the blood, and that the food supplies chiefly fatty matter, and other principles soluble in alcohol, particularly osmazome. Before they are entitled, however, to form these conclusions unreservedly, it is necessary to establish a preliminary condition, which they have entirely neglected, namely, that the flow of the lymph increases along with the flow of the intestinal chyle during digestion; for if it does not, then the proportional deficiency of albumen and fibrin in the chyle of digestion, when compared with the lymph, is no proof whatever that the former does not supply even more of these principles than the latter to the blood. The inferior proportion may be more than compensated by the great increase in the quantity of fluid.

MM. Leuret and Lassaigne, we must add, have remarked that chyle is taken up from the stomach as well as the intestines. Physiologists, they say, imagined that chylification commenced in the duodenum, because the addition of the bile was considered necessary. But if an animal be examined soon after digestion has begun, true chyle will be found in the lymphatic vessels of the stomach.

On reviewing the outline now given of the result of the competition for the academy's prize, the physiologist cannot fail to perceive that his science has reaped from it a rich harvest of facts and observation. No great discovery indeed has been made. Yet at the same time many interesting novelties have been brought forward, many gaps in former researches filled up, many doubts and obscurities cleared away; and on the whole, it cannot be denied that the physiology of digestion has in consequence received much illumination, and that a theory may now be established where there formerly existed nothing else than a hypothesis. The nature of the saliva has been settled; the composition and solvent power of the gastric juice, so much disputed, are now ascertained; the composition of the bile has been more minutely examined, some of its purposes fixed, and certain conjectures as to other uses disproved; the function of the cœcum has been established on surer grounds than formerly; the more intimate chemical changes which the food undergoes in the course of chymification have been to a certain extent unfolded; and much light has been thrown on the circumstances which regulate the varying nature of the chyle.* The chief points which are still left in doubt are the following. The nature and purposes of the pancreatic juice are still unsettled; the changes which the chyle undergoes in its course till it enters the blood, and the agents which effect those changes still supply an ample field of research; and in regard to the chemical changes of the food as it passes through the alimentary canal, there is still much left to be determined when

* Both the German and the Parisian experimentalists, but particularly the former, have studied the digestion of other tribes of animals besides that of man and the *mammalia*. It is impossible, however, for us to command space enough to notice their observations.

the progress of organic chemistry shall have supplied the physiologist with new modes of investigation.

From the London Medical and Physical Journal.

Case of extensive Fracture of the Skull, with Laceration of the Membranes, and escape of considerable Portion of the Brain, successfully treated. By Mr. J. C. Cox, Member of the Royal College of Surgeons, London, and of the Royal Medical Society of Edinburgh.

Friday, January 6th.—George Selman, aged 20, a healthy young man, of a sallow complexion, was working in a coal-pit, when a heavy stone fell from a height of fourteen or fifteen yards, and struck him down to the ground. He was taken up, bleeding profusely from the head, and was carried home. My assistant, who was near at the time of the accident, saw him very shortly, and sent for me.

Although he was completely stunned by the blow, and at first in a state of complete stupor, yet he soon recovered some degree of consciousness. When I saw him, he was not insensible; his countenance was natural, his pulse firm and steady. He had been bled by my assistant before my arrival.

I found a large portion of the upper and anterior part of the left parietal bone driven in by the blow. The fracture extended across the coronal suture, and a part of the frontal bone was included in the depressed portion. The bones were so fractured by the blow, that, after sawing through a small part with Hey's saw, I was able to elevate the depression, and remove the fractured portions, which measured nearly three inches long by two inches wide, but which were broken into ten pieces. The bleeding from the surface of the brain was very considerable. On raising the depressed bone, there was a gush of venous blood, and an artery of the dura mater threw out its blood vigorously. It was necessary to secure this vessel by a ligature, which was of fine silk, and cut off close to the knot. A considerable quantity of brain, estimated at a table-spoonful, had escaped, and some was still adhering to the hair. The young man retained his consciousness during the operation: he occasionally expressed a feeling of pain, and watched his brother walking in the garden, he being placed opposite the window. It was yet necessary to examine whether there were any spiculæ of bone remaining in the wound, and the finger passed into a frightful cavity in the substance of the brain. The angles of the wound were now approximated to each other by straps of sticking plaster, and the centre was dressed with pledgets of lint. After he was removed from the table into bed, he lay in a very tranquil state; his pupils dilated and contracted readily; there was no moaning or expression of suffering.

Evening.—Pulse ninety, strong; had spoken since I left him. He lay quite tranquil; pupils natural; breathing slow and regular; had made water; expressed great aversion to being disturbed.

Poultice applied to the head. V.S. ad. ℥xxx. Ordered an aperient.

7th, morning.—Has passed a tranquil night; lies very still; he speaks little, but is evidently conscious of what passes around him. The wound looks well; pulse 108.

Ordered a Calomel powder, and a mixture with Salts and Senna every four hours.

Evening.—The medicines have acted on the bowels. Pulse ninety, strong; in other respects the same as the morning.

V.S. ad. ℥xvj. Repeat the mixture.

8th.—Passed a tranquil night, but at about seven o'clock this morning became restless; face flushed; pulse 108, not strong; tongue white; skin hot; he occasionally moans. The wound looked well. He knew me when I addressed him.

℞. Calomel gr. ij.; Pulv. Jalap. gr. viij. fiat. pulv. quartâ quâque horâ sumendus, cum Misturæ Cathartic cyatho ad alvum benè solvendam.

The action of the aperient removed all the unpleasant symptoms. The patient continued going on tranquilly. There was a healthy suppuration established; but, on the fifth day after the accident, a hernia cerebri began to protrude.

The poultices were omitted, and the wound dressed with dry lint, and pressure employed by straps of adhesive plaster.

The protrusion continued for some days to increase, in spite of the means employed, till it was nearly as large as the egg of a turkey, and burst open a considerable portion of the wound which had united.

The pressure was increased by means of a bandage, which was firmly bound over the projecting part.

The patient continued without any other bad symptoms of importance. He occasionally became restless and a little delirious, but an active aperient always relieved him.

At the end of three weeks, the protruded portion was evidently diminished; there was an extremely fetid discharge. The pressure employed by the bandage, &c. produced a decided effect on the tumour: if that were intermitted or diminished from any cause, the protrusion was increased; but perseverance in the system at length completely repressed it. The granulations quickly filled up the wound, and at the end of two months it was perfectly healed; and it is surprising how little mark remains of the severe injury that was sustained. His intellectual powers are not at all impaired; and he grew very fat during the confinement. He is now able to work at his usual employment.

Observations.—The injury sustained in this case was so considerable, that few could have anticipated any other than a fatal result; and the favourable progress of the case is to be attributed partly to the health and vigour of

the patient, and also in part to the employment of active depletion in the early stage.

The occurrence of hernia cerebri after fractures of the skull is a great aggravation of the danger, not only as proving considerable injury to the membranes of the brain, but also as being frequently followed by deep seated abscess.

There can be no doubt, however, that the evils of this accident are best averted by gentle treatment; by taking care to avoid inflammation, by strict antiphlogistic diet and venesection; and at the same time, endeavouring to restrain the tumour by firm pressure. The treatment formerly adopted, of cutting away the protruded portion, employing escharotics, &c. only tends to excite that irritation which it is so important to avert, and does not cure the disease: the protrusion still occurs, and the surgeon is baffled and disappointed. At the same time deep seated inflammation and abscess is a very common consequence of such measures. One other observation suggests itself, which is confirmed by the experience of all practical surgeons,—viz. that the evils arising from such an accident can only be averted by full and active depletion at the very early stage of the case; and the benefits of keeping up a free and regular action on the bowels can be sufficiently appreciated only by those to whom such cases are familiar.

Does not the fact of the intellectual faculties being so little impaired by such extensive injury and loss of cerebral substance, afford some confirmation to the theory of Gall and Spurzheim, that the organs by which the intellectual faculties are manifested are double?

From the Medico-Chirurgical Review.

DILATATION OF THE URETHRA.

The treatment of stricture of the urethra by mechanical dilatation is well known and commonly practised, whilst the difficulties which, in certain cases, attend that treatment, have often proved a source of considerable annoyance to surgeons. Any plan which proposes to obviate these inconveniences of course deserves consideration, and for this reason, we shall lay before our readers without further preface or apology, an abstract of a paper on the subject by Baron Dupuytren.

This celebrated surgeon observes that there are two methods of overcoming a stricture in the urethra. The first consists in the introduction of a fine bougie *into* the stricture, which is acted on by the mere mechanical pressure of the instrument. This M. Dupuytren terms the *mechanical dilatation* of the canal, and is the plan in common use. Two or three cases are cited in illustration, but these it is not necessary to notice.

There is, however, another mode of proceeding, namely, by what our author calls the *dilatation vitale*. The instrument is of larger calibre and blunt at the extremity; as before, it is passed into the urethra, but not *into* the stricture. When it has reached this point it is introduced no farther, but kept in this situation for a certain time. That this is not a distinction without difference, it is stated that, frequently when it has been found impossible to pass a fine bougie, a blunt instrument has been introduced into the urethra, and kept anterior to, and in contact with the stricture for eight or ten hours, at the end of which time it has been withdrawn, and the bougie has reached the bladder without difficulty. This, however, seems to savour a little of the post hoc, ergo propter hoc argument, for at the first introduction, the bougie may have been obstructed by spasm of the canal, which, at the end of so many hours, may have subsided quite independently of the presence of the larger instrument. But we shall pass at once to the cases brought forward by M. Dupuytren in support of his practice.

Case 1. Eight or ten years ago, M. Dupuytren was called to M. * * *, a man of property, and of a nervous and extremely susceptible disposition. He was tormented with great difficulty of making water, and M. D. proposed the introduction of bougies into the urethra, but the bare thought of a bougie filled the patient with horror, and it was with the utmost difficulty that he consented.—Scarcely had the instrument entered the urethra before all his apprehensions were renewed, and though M. Dupuytren contrived to get the instrument as far as the stricture, such was the agitation of the patient, that he durst go no further. He accordingly left the bougie in the urethra, with the intention of completing its introduction in the course of a few hours. On his arrival at the expiration of the time, he found that the patient had made water freely, and now the instrument was passed fairly into the stricture without difficulty; in a few hours more it was passed still deeper, and during the day it was introduced into the bladder. In two or three days, a larger bougie was employed, and at the end of a fortnight, the gentleman voided his urine in a good stream, and without either pain or difficulty.

This, we apprehend, was a case of "spasmodic stricture," and we can conceive no method more calculated to allay spasm and irritation than that pursued by M. Dupuytren, to wit, the gradual introduction of the instrument. The plan in question appeared to that able surgeon to be well calculated for patients of a pusillanimous or irritable temperament, as also for those cases where the symptoms are not so urgent as to require an immediate removal of the obstacle to the passage of the urine.

Case 2. Colomb, æt. 36, entered the Hôtel Dieu, Feb. 6th, 1827, with all the symptoms of stricture. The difficulty of making water had commenced seven or eight years ago, and it followed a gleet of ten years standing. *Feb.* 7. A middling sized sound was intro

duced as far as the membranous portion of the urethra, where it was stopped by a very firm stricture, into which it could not be made to enter. Up to this point, a bougie was passed, and left in the urethra, but in the course of an hour it was taken out by the patient. In the evening, an attempt was made to introduce it again, but, in consequence of the excessive spasm of the canal, it could be got no farther than the fossa navicularis, and here it was grasped so firmly that considerable force was necessary to withdraw it. *Feb.* 9. A silver sound was employed with similar want of success. Part of a large sound, rounded at its extremity, was now fixed in the fossa navicularis, and at the end of 24 hours, it was replaced by a middling sized instrument of elastic gum, which was kept in the urethra for twenty days. Three instruments, each larger than the other, were successively introduced, and the patient, on leaving the hospital, could make water freely and in a large stream.

Two more cases are detailed. In both, the strictures were of long standing, and in both, the introduction of instruments up to the strictured portion, and leaving them there, proved effectual.

Sounds or bougies of elastic gum, having the extremities rounded off and blunt, and of a length proportioned to the depth of the obstacle, are best adapted for this mode of dilatation. After some hours, and in the worst cases, days, either the blunt instrument itself can be passed into the bladder, or the urethra is so far enlarged as to permit the passage of a bougie. There are many advantages attending a slow and gradual dilatation of the urethra. The pain is comparatively trifling, and there is no danger of producing those lacerations and false passages, which occasionally follow a more rapid introduction of instruments. But, besides this, there is a continual disposition in the urethra to contract again, and the quicker the dilatation, the quicker, cæteris paribus, will be the contraction. This disposition in the urethra may be kept under by the introduction of a bougie every ten, twelve, fifteen or twenty days, as the case may require. The instrument should be retained in the urethra for some time.

In conclusion, we would just observe, that the above plan deserves a trial in those cases of spasmodic stricture, in which the introduction of an instrument into the bladder is impracticable, or exceedingly difficult. We think that it ought to be employed before the caustic bougie; it is a safer, a milder, and, if effectual, a far preferable mode of treatment.—*Repertoire, Tome* 3.

DIABETES MELLITUS.

[*M. Luroth. Strasburg Hospital.*]

Case. J. B. Canyon, a soldier, aged 40 years, entered the Hospital of the Faculty of Medicine, of Strasburg, on the 27th December, 1824, having been affected with diabetes for three years previously. The cause was unknown; but the progress of the disease was rapid, and the patient was reduced to a state of marasmus. He had no pains in the region of the kidneys, nor could any lesion be discovered by external examination of the abdomen. The urine was copious and sweet—the appetite voracious—the thirst inextinguishable—tongue white and moist—pulse, temperature, and alvine excretions natural. The quantity of urine made each day amounted to upwards of 30 pints. Various remedies were used, without any impression being made on the complaint. The plan of Rollo was then tried. By the third day of this treatment, the quantity of urine was diminished to eight pints per diem, and a most abundant perspiration daily covered the surface. The qualities of the urine became nearly natural. But now the appetite failed, vomitings took place, constipation became obstinate, the thirst was still intense, febrile phenomena were developed, debility rapidly increased, and dyspnœa, with cough, were added to the other symptoms. The patient lingered out till the 10th March, 1825, seventy-two days from his entrance into hospital, and then expired.

Dissection. There was nothing remarkable in the intestinal canal, except a few discoloured patches in the mucous membrane, which, in texture, was sound. There was also a very small ulceration of one of the mucous follicles in the lower portion of ileum, near the valve of the colon. No apparent change in the liver, spleen, pancreas, or kidneys. The vessels of these last were strongly injected. The ureters were dilated, and the urineary bladder was very capacious. Its coats were thickened, and their vessels and nerves strongly developed. In the chest, the morbid phenomena far exceeded the symptoms during life. There was hydrothorax in the left side—hepatization of the left lung, and, in its upper portion, a large cavernous excavation—universal adhesion of the right lung to the side, but its structure sound—hydro-pericardium—aneurismal dilatation of the pulmonary artery, two inches in diameter. There was no lesion in the brain or its membranes. The blood was every where fluid in the vessels, and mixed with air.—Repertoire, No. 3.

On several occasions, in this Journal, we have stated that, of many dissections which we have seen of diabetic patients, not one presented sound lungs. On examining the records of published cases, where dissection was practised, we could scarcely find a single instance where some disease of the lungs was not evident. These facts have long ago led us to believe that diabetes was dependent on pulmonary disease, and, consequently, on some defect in the sanguifactive process. It may be said, indeed, that all these pulmonary diseases occur daily, without producing diabetes. This objection is more specious than solid. The same may be made to

many other pathological conclusions. The same organic disease in the brain will, in one individual, produce epilepsy—in another, apoplexy—in a third, paralysis—in a fourth, insanity, and so on. We cannot account for the variety of effects resulting from the same cause; but if we invariably find disease in the lungs on the examination of diabetic bodies, we may reasonably conclude that such are not mere coincidences, but are to be viewed in the light of cause and effect.

Med. Chir. Review.

HEPATIC TUMOUR.

[*M. Luroth. Strasburg Hospital.*]

Case. Peter Vacher, a shoemaker, aged 52 years, entered the hospital on the 14th January, 1824, having, for six years previously, perceived a tumour in the epigastric region, which, however, gave him but little inconvenience till about six weeks before the above date, when the tumour became painful and tender, accompanied by headach and much perspiration about the head. When examined, a circumscribed tumour was felt in the epigastric region, its site and the jaundiced appearance of the countenance leaving no doubt that it was hepatic. Yet the digestive functions were performed tolerably well —there was appetite—the tongue and pulse were natural—the bowels rather torpid. The patient was troubled with eructations, sleeplessness, headachs. Laxative lavements were prescribed, and ox's gall was given, with the view of proving a substitute for the natural bile. It may readily be supposed that this remedy was of little service. The pain increasing, leeches were applied, followed by poultices. These means procured temporary relief; but the disease made progress, and the patient was worn out by the 4th March—the 50th day of his sojourn in the hospital.

Dissection. Both lobes of the liver were considerably enlarged, the left adhering to the spleen, and both lobes adhering to various surrounding parts, especially to the adjacent intestines. The *right* lobe of the liver was still more enlarged than the *left*, and when cut into, disclosed a cavity containing nearly a pint of a yellowish glairy, but clear fluid, in which several pieces of skinny membranes floated, evidently the debris of hydatid cysts. The cavity itself was lined by a cyst consisting of a dense white shining membrane, intimately adhering to the surrounding structure of the liver. The cavity of this cyst was intersected by partitions of a membranous structure. Around the cyst, in the substance of the liver, was found purulent matter, and also a number of tubercles, some of them softened down, some of them in a state of crudity. There was no other disease in the body.—*Repertoire, No. 3. p. 53-4.*

While translating the above, an interesting case occurred in our own practice, of which the following is a brief outline. A gentleman of very social habits, but by no means intemperate, had complained for some years of occasional uneasiness in the epigastrium, with slight symptoms of dyspepsia. Only three months before his death he was in his usual state of health, and presided at a public dinner. He had, however, an irruption on his face, which he was anxious to have removed, and for that purpose, put himself under the care of Mr. Macilwain and Mr. Brookes, of Lambeth. Mr. M. put the patient on a reduced scale of diet, consisting of a considerable proportion of vegetables, and gave some mild alterative and aperient medicines. By these means the eruption entirely disappeared from the face; but now a new train of symptoms occurred. Some fulness appeared just under the ensiform cartilage, attended with pain, and dyspeptic phenomena. For these symptoms leeches were applied, and the usual remedies prescribed. But the fulness quickly increased, and Dr. Cholmely's attendance was had, in addition to that of the two other medical gentlemen. The epigastric swelling, however, made rapid progress, and it was soon discovered that the edge of the liver could be clearly traced extending from one hypochondrium to the other, considerably below the margins of the ribs. The biliary secretion was now considerably deranged—the countenance was sometimes tinged yellow—a sickly sallowness took place —much gastric irritability prevailed—and emaciation advanced. On the 14th July, Dr. Johnson was called in, in addition, and this was about ten weeks from the first appearance of the epigastric swelling. There was now a large prominent tumour in the epigastrium, and the liver could be felt as low as the umbilicus, extending from one side to the other, with hard rounded edges. It was conjectured now that there was some morbid growth, probably of a hydatid, tuberculated, or fungoid nature, independently of the general enlargement of the liver, which might account for the large rounded prominence in the centre. Nothing could, of course, be done, but lessen the gastric irritability by anodynes and effervescing medicines, while motions were procured by aperients. The prominent symptoms were now paroxysms of severe pain along and under the edges of the enlarged liver, which pain was considered by the medical attendants as seated in the bowels, and not in the tumour itself. The unfortunate patient could only lie on his right side —he had constant fever—thickly coated tongue—thirst—loss of all appetite—very morbid secretions from the bowels—and loaded urine. His countenance was indicative of visceral disease. Sir Astly Cooper was now added, in consultation; but, alas! the disease was beyond the reach of art! The patient lingered till the 29th July, when he rather suddenly expired.

Dr. Johnson and Mr. Brookes examined the body at eight o'clock the same evening. There was some serous effusion in the abdomen, which was principally occupied by

an immense liver, or rather tumour of precisely the appearance of brain. Not a particle of the original natural structure of the organ could be discovered. All was a homogeneous encephaloid mass, in which neither vessel nor duct could be traced by the naked eye. This enormous encephaloid growth (for it could hardly be called liver,) had pushed up the diaphragm before it, and reached to the very summit of the thorax on the right side, descending below the umbilicus. Extensive adhesion had glued it to the stomach, transverse arch of the colon, and other contiguous parts. In a groove on its concave surface was found the gall-bladder, containing a thin dark-coloured fluid bearing little resemblance to bile. There was no other disease worth mentioning.

Remarks. We have said that the patient was not *intemperate*, in the common acceptation of the word; but he was a *bon vivant*, though he never carried the indulgences of the table to inebriety. We do not, indeed, believe that this disease was at all dependent on any dietetic irregularity. The rapidity of growth in this tumour, showed a *malignancy* of character very different from common enlargements of the liver. We forgot to mention that, about twelve months before his death, he had been thrown out of a gig, and severely bruised; but, from this accident, he very soon recovered, and enjoyed his usual state of health till within three months of the termination of life. He was of a very philosophic turn of mind, and, a few days before his death, he left commands with his executor that his body should be examined, if his medical attendants expressed any wish to that effect.

Was the eruption on the face any index of the morbid growth going on in the liver? Had the disappearance of this eruption any connexion with the rapid developement of the hepatic disorganization which quickly ensued? These are questions which are easily asked, but not so easily answered.—*Ib.*

Employment of Iodine in the Treatment of Cynanche Parotidœa. (*Rust's Magazin für die gesammte Heilkunde*, 1826.)

Dr. Neumann of Neustadtel in Silesia, has employed the hydriodate of potass with great success as an external application in cynanche parotidœa, which prevailed epidemically in Neustadtel in June 1823. Among the poorer orders who were treated in the ordinary way, the disease was very tedious, and generally ended in suppuration. Among the better ranks, the treatment consisted in the exhibition of an emetic, and the application over the tumour of a plaster composed of eight parts of mercurial ointment and one part of the hydriodate of potass; and the ordinary effect was a radical cure within three or four days. Dr. Neumann adds, that he never observed, in the cases so treated any metastasis to other organs; and he is disposed to impute this to the formation of an erythematic eruption, which always appeared on the first or second day, and remained from eight to twelve days.—The author has annexed a very instructive case illustrating the deleterious effects of this drug when given in too great quantity. It was given to cure enlargement of the cervical glands, which it accomplished very effectually; but the patient was at the same time attacked with violent palpitation in the chest and abdomen, which was relieved only by the horizontal posture, then with great weakness, and tendency to faint, and subsequently with emaciation and general dropsy. The palpitation was so violent and constant as at first to appear connected with organic derangement; but the relief obtained from the horizontal posture, the absence of cough and dyspnœa before the dropsy commenced, and the regularity of the pulse, led Dr. Neumann to conceive that the disorder of the heart was merely functional. Accordingly, although the patient had been ill for a twelvemonth, the irregularity of the heart's action was soon subdued by the employment of digitalis and cherry-laurel water; and the tendency to faint and anxiety at the same time disappeared. The dropsy, however, continued much longer; but at length it slowly receded under the use of the *Arnica* combined with soap.—*Ed. Med. & Surg. Journal.*

From the London Medical and Physical Journal.

Memoranda respecting some Investigations into the Manner in which the Nutrition of the Fœtus is effected, which have recently been made by C. Lee, M. D.

Dr. Lee, from some inquiries in which he has lately been engaged, has been led to conclude that a process of digestion goes on in the upper intestines of the fœtus, similar in kind to that which takes place after birth, and consequently that the nutrition and growth of the fœtus are chiefly, or perhaps entirely, effected in this manner. He has ascertained that the stomach of the fœtus, from three to nine months old, invariably contains a transparent mucous and acid fluid, but never the smallest admixture of albuminous or nutritious matter; while, on the other hand, the upper half of the small intestines always contains a yellowish or orange-coloured pultaceous mass, which, in appearance as well as chemical composition, resembles exactly the chyme of the adult: in a word, that it is nearly pure albumen. The contents of the lower half of the small intestines contain a much smaller proportion of albumen than those of the upper half, and the matters gradually assume more and more the characters of the contents of the large bowels, in proportion as the distance from the valve of the colon diminishes. The meconium is confined exclusively to the great intestine, and is generally possessed of alkaline properties, while the contents of the small intestines

above alluded to are almost invariably acid. The meconium appears further to be merely excrementitious, as no albuminous or other nutritive principle can be detected in it.

It is remarkable that a fluid resembling that contained in the duodenum in appearance and in chemical composition,—in other words, pure albumen,—has likewise been detected in the hepatic duct of the fœtus; from which circumstance, and from the orange-coloured fluid first appearing in the duodenum, near the opening of the common duct, it may be inferred that the liver of the fœtus secretes the nutritious matter, which in no instance has been found wanting in the upper part of the small intestines. It may likewise fairly be concluded that the nutrition of the fœtus is accomplished partly, if not entirely, through the absorption of the albuminous matter so secreted from the intestinal canal, as in the adult. Lacteals, however, have not yet been discovered in the human fœtus, although they have in a fœtal calf of six months.

The small intestines in the fœtus are generally much more red and vascular than the great intestines; but this is particularly striking with regard to the mucous membrane of the duodenum and jejunum, to which the albuminous matter closely adheres, and which affords a strong presumptive proof that they perform some more active and important function. The great size of the liver in the fœtus has long been matter of observation; while the function which it performed has been a source of frequent and unsatisfactory conjecture. It is a remarkable fact, too, that while almost every other organ has been wanting in the various kinds of human monstrosity, no instance has been recorded in which the liver has been absent. Its great size, its large supply of blood, and its invariable presence, accord with the hypothesis above described, which attributes to it the office of separating albumen from the blood during fœtal existence. This idea, especially the fact first mentioned of the stomach containing no nutritious matter, militates against the opinion of some of the latest and ablest physiologists, who have maintained that the nutrition of the fœtus, as of the adult, is effected by the matters received into this viscus.

In conducting the chemical part of these interesting investigations, Dr. Lee has had the able assistance of Dr. Prout.

CASE OF BILIARY CALCULI *discharged through the Abdominal Parietes.* By Dr. Couetoux.

A woman, 50 years of age, had experienced a variety of symptoms, such as acute pain of the back and abdomen, dejections of a bilious and sanguineous matter, irregular fever, &c. She had been afflicted in this manner about a year when Dr. C. saw her for the first time in December, 1825. Besides the above symptoms, the catamenia were suppressed, abdomen hard, round, enlarged, &c.; beneath the umbilicus there was a fistulous opening, from which puriform matter had been discharged. A second tumour situated above the former having increased in size, terminated in abscess, and discharged with the pus three biliary calculi, each weighing from 15 to 18 grs. After a lapse of twenty-four hours, there was a new accession of fever, attended with pain, oppression and tension of the abdomen, followed by the evacuation of three other calculi. From this period, her health gradually improved.

Similar examples are met with, in many collections of medical cases; it is, however, not common to see calculi escape from an opening in the abdomen, at such a distance from the gall bladder. Since Dr. Couëtoux does not say that there was any enlargement of the liver, or that it descended lower than usual, we must either suppose that the gall bladder had acquired a great increase of size, or that there was a fistula extending from it to the opening by which the calculi were discharged.—*Jour. de la Soc. de Méd. de Nantes.*

From the Medico-Chirurgical Review.

ANEURISMAL POUCH IN THE HEART.

In No. 12 of this Journal, page 465-6, we gave some account of Talma's death, and the peculiar disease of the heart under which he laboured—also the case of the late General Kyd, who died of this rare disease, namely, an aneurismal pouch arising from the left ventricle, which ultimately gave way, and caused instant death. M. Berard has recently brought forward two cases of this disease—a third may be found in the Morbid Anatomy of Baillie—and a fourth in the Miscellanea Naturæ Curiosorum. In these cases, as in that of Talma, the fibrous aneurismal pouch arose from the apex of the heart, and was adherent to the pericardium. In a fifth case, reported by Corvisart, the pouch arose from the side of the left ventricle—while, in General Kyd's case, the origin of the pouch was near the basis of the ventricle.

Case. By M. Cruveilheir. M. N. aged 77 years, of excellent constitution, and considerable muscular force, summoned M. C. while in a state of suffocation, that took place while in the warm bath. He presented the following symptoms, viz. purple hue of the face—cold perspiration—extreme oppression—anxiety—expectoration of a spumous, sanguinolent character—hard, full pulse, quick and irregular—in short, he had all the symptoms of a severe paroxysm of asthma. On investigation, it was found that he never had experienced a similar attack before, but that ever since 1809 (the time being then 1819) he had complained of dyspnœa and sense of tightness in the region of the heart, for which he consulted the most eminent physicians of Paris, who considered the disease as spasmodic. The patient was directed to keep in

the vertical posture before a window—to have pediluvia and frictions applied to the lower extremities, and to take some expectorants. By these means, the sense of suffocation soon went off, and, in a few hours, the patient was restored to his ordinary state of health.

From that period, however, M. N. was quite an altered man. He became irritable, timid, pusillanimous, and haunted with the perpetual dread of death in one of these paroxysms of suffocation. This was the predominant idea. During the day, while surrounded by his children and friends, the terror of death was moderate; but the moment he went to bed, the dread of an attack produced, as if by an electric shock, a sense of constriction about the heart, and a strange sensation in the arm pits and hams. The precise nature of these sensations he could not clearly describe. He could dilate the thorax, the lungs seemed free, the pulse was habitually hard and full, occasionally intermitting—capillaries of the face injected—digestive functions perfect. He was still solaced by the idea that his disease was merely asthma; but M. Cruveilheir and another physician justly apprehended that they had a more serious malady to combat—namely, an organic disease of the heart. The stethoscope had not yet been discovered; but the fulness of the pulse repelled the idea of there being any contraction of the ventricular orifices. Still there was no doubt entertained of the existence of some organic lesion of the heart. Various means were employed, in the way of hygiene as well as medicine, but not apparently with much effect. During the eight months that intervened between this attack and his death, the patient had several slight accessions of suffocation, which generally came on in the mornings, with a wheezing respiration, hard and irregular pulse, frothy and sanguineous expectoration. The fresh air, horizontal posture, and pediluvia, were generally sufficient to dissipate these attacks.

Early in July, 1820, M. N. was seized with pulmonary catarrh, which was attended with much oppression of the chest, and sanguinolent expectoration. M. Cruveilheir was called to him on the 12th. Nothing particular was done at that time. On the 15th, he was again summoned in great haste. The gentleman had gone to bed in very good spirits, and slept well all night. In the morning, a severe paroxysm of suffocation came on, and carried him off, his intellectual functions remaining unimpaired till the last.

Dissection. The lungs adhered pretty generally, were crepitant, but considerably infiltrated with frothy serum, and the ultimate branches of the bronchia were red. There were four or five ounces of serum in the left cavity of the thorax. The pericardium adhered to the heart by some filaments, especially on the left side. These being torn through, a small tumour, the size of a walnut, presented itself, standing out from the left ventricle of the heart. It adhered to the pericardium. The parietes of the tumour were very resistent. The left ventricle was hypertrophied. Between two of the columnæ carneæ, there was seen a small opening, which would admit the point of the finger, leading to the tumour or pouch above described. The parietes of this pouch were found to be cartilaginous and osseous, and lined with a fibrinous concretion. There were some calcareous concretions on the mitral valve. The coronary arteries were completely ossified, and the root of the aorta was studded with calcareous spots.

M. Cruveilheir observes that—"here is another instance of asthma *symptomatic* of disease of the heart." It is evident that the patient died of the former, and not of the latter complaint. This is the case in a great number of chronic diseases, where the patient is often cut off by the complication or consequence of the malady, rather than by the original malady itself.

"Is asthma, then, *always* a symptomatic disease? I believe with M. Rostan, that it is generally such in *old people:*—but I admit, with nosographical writers, a primitive idiopathic asthma; and I found this belief on a multitude of cases, in which there was no evidence, during the intervals, of any organic or functional disorder in the circulation or respiration. I may cite the case of a young man, who fell a victim to the fourth paroxysm of asthma. Several large bleedings were practised, and seemed to accelerate, if not cause the death of the patient. On dissection, I could find no trace of alteration of structure in any of the organs in the chest." In a note, M. Cruveilheir remarks that he has seen bleeding relieve, at one time, the paroxysm of asthma—and at other times, even in the same person, it has aggravated all the symptoms. No medicine has appeared to our author so beneficial in the asthmatic paroxysms as large doses of the gum ammoniacum. He thinks that the disease under consideration consists in a spasmodic constriction of the muscular fibres surrounding the various branches of the bronchia—which constriction is sometimes idiopathic—sometimes symptomatic.

In respect to the aneurismal pouch observed in the above, and in a few other cases, the disease is evidently of the same nature as real aneurism in the arteries of the body. It thus fills up a lacuna in the history of aneurism generally, by showing that the heart itself is subject to the disease, in the strict meaning of the word.

INTERESTING CASE OF PARTIAL PARALYTIC AFFECTION, *commencing in the extremities of the Toes and Fingers.*

W. Hicks, æt. 44, of spare habit, a weaver, came into the hospital on the 12th of July, under the care of Dr. Scott, on account of partial paralyses of the hands and feet.

The history of the case, which is very curious, was thus given:—he was first attacked

with numbness in the toes, a general deficiency of sensibility and loss of power afterwards gradually extended over the foot and up the leg, until at length in walking he dragged his limbs along. At this time he had pain in the head, with vertigo, for which he was cupped, and took various medicines, and derived much benefit to the affection of the head, but the partial loss of sensation and power in the feet and legs was much the same. From this period until last Christmas, he continued to pursue his ordinary employment, the legs having become much stronger, although the feet still continued numb, as far as the ankles; he was now attacked with numbness at the extremities of the fingers of each hand, the sense of feeling gradually becoming obtuse to the middle of the metacarpus, above which point sensation was perfect.

The imperfect paralysis also extended in the lower extremities, gradually reaching as high as the knee; he had no pain of the head or vertigo during this period.

When admitted into the hospital, he was in the condition described above, with imperfect sensation, and partial loss of muscular power in the hands, as far as the middle of the back of the hand, and also of the legs as high as the knee. He had no pain of the head, vertigo, or uneasy sensation; his memory and faculties were perfect. He had strabismus, with a very small contracted pupil in each eye, and imperfect vision, especially with the right eye, the power of sight in which was nearly gone. The squinting, he said, came on suddenly, seven years previously; he had no power of moving the left eye outwards, nor the right eye any way, except obliquely, and a little downwards; hence the eyes, not moving in unison, occasioned the strabismus. The man's general health was tolerably good, his bowels somewhat constipated, and he complained of feeling pain occasionally in different parts of the body, especially of the extremities.

Dr. Elliotson, who took charge of the case in the absence of Dr. Scott, was of opinion, that the paralytic affection was referrible to some disease of the brain, and probably owing to the formation of a tumour, which, by its pressure, occasioned the strabismus and imperfect vision; with this view of the case, he directed the head to be shaved, and the ointment of *iodine* to be well rubbed over the scalp twice a day, at the same time prescribing *ten minims of the tincture of iodine* to be taken three times a day.

The iodine was gradually increased to the doses of *fifteen*, *twenty*, and *twenty-five* minims, which latter dose was taken for some time without producing any very sensible effects.

On the 18th of August, when this report was written, the iodine, by the direction of Dr. Scott, had been discontinued for some time, and the patient only takes house medicine occasionally. The paralytic affection of the legs is not at all relieved, whilst in the hands it is increased, now extending as far as the wrist; he feels occasionally a tingling sensation in the arms, but has never felt this in the legs. The vision of the right eye, he says, has greatly improved since his admission; he remains, at present, in Jacob's Ward, at No. 11.—*St. Thomas's Hospital.*

From the London Medical and Physical Journal.

CASE OF HERNIA, *treated at St. Bartholomew's Hospital; with Observations.* By H. Earle, Esq. F. R. S. &c.

John Harris, ætat. fifty-one, a watchmaker by trade, was admitted into St. Bartholomew's Hospital on Thursday night, Oct. 4th, at twelve, with a large strangulated scrotal hernia. It appeared from his account that he had been subject to hernia for many years, but, not suffering materially from it, he had not made use of any truss, and the rupture always remained unreduced. On the Wednesday morning before his admission, he was seized with a fit of sneezing and coughing, and felt the tumour suddenly enlarged to a great size, accompanied with severe pain. This took place when he was endeavouring to evacuate his bowels, which had not acted from the Tuesday morning. Finding the pain increase, with tenderness of the whole belly and vomiting, he called in a surgeon, who made many unsuccessful attempts to reduce the hernia, and at last sent him to the hospital at midnight on Thursday. He was put into the warm bath, and the taxis slightly employed. I saw him between two and three, and immediately resolved to operate. The following was his state at that time:—the tumour was of great size, and very tense; the testicle could be felt at the lower part, but could not be separated from the tumour, which led to the supposition that the hernia was scrotovaginal. The hernia was very tender to the touch. The abdomen was swollen and very tender, particularly near the ring, which was much distended. His pulse was frequent and very feeble; countenance anxious and sunken; skin clammy; and he had been constantly vomiting for many hours. The bowels had not been relieved from the Tuesday preceding.

On making a long incision through the tumour, the sac, which was much thickened, was found closely adhering to the surface of the intestine, which proved to be the cœcum, with part of the colon. The intestine was much thickened, but not inflamed. On examining the abdominal ring, it was found very large, and free from stricture, the intestine adhered closely all round the inferior margin. Air could be pressed from the tumour upwards in the direction of the ascending colon, and, when the bulk of the tumour was thus a little reduced, a firm elastic-feeling body could be distinguished within the cavity of the sac. This was evidently not a collection of fæces, as it could not be moved. It was obvious that the symptoms of strangulation which existed were not caused by any confinement at the ring, and an accurate examination and careful dissection proved that there

was no additional protrusion of small intestine. This circumstance, coupled with the foreign body which was felt within the cœcum, led me to suppose that a portion of small intestine had been protruded through the valve of the colon, forming a case of introsusception within the hernia. With a view to further reduce the tension of the tumour, I punctured the gut with a small trocar, and drew off a small quantity of dirty coloured fluid and flatus; still the great bulk of the swelling remained but little diminished. The circumstances of the case were very embarrassing, the symptoms urgent, the patient in imminent danger. Nothing presented itself to my consideration but to freely open the bowel which it was impossible to reduce, in consequence of its firm adhesions to the surrounding mass, the nature of which could not be ascertained. The large surface of bowel which had been necessarily exposed, and deprived of all integumental support, rendered it highly probable, even should the passage through the small intestines be restored, that the functions of the cœcum and colon would be suspended, as the intestine would be left to its own spontaneous and insulated efforts to expel its contents, under circumstances most unfavourable, from the adhesions which bound it down on all sides but the front, from the pressure it sustained from the surrounding diseased mass, and from the inflammation which might be expected to follow the operation. From these circumstances alone, an artificial anus was the only alternative which offered; added to which, it appeared evident that the obstruction was connected with the elastic body, which could be felt within the cœcum, in the direction of the valve of the colon. Having proceeded thus far without removing or detecting the cause of the obstruction, it became necessary to investigate farther, and, should it prove to be a case of introsusception, to endeavour, if possible, to return the volvulus through the valve. The passage of the ilium behind the cœcum was rendered impossible, from circumstances which became apparent on dissection: to attempt any thing, therefore, with the upper portion of gut, with a view to extricate it from the valve, was quite impracticable. On maturely considering all these circumstances, and entertaining a full sense of the heavy responsibility which a surgeon incurs in resolving to establish an artificial anus, I determined to make an opening at the lower part, immediately opposite to the most prominent part of the projecting internal tumour.

An incision of an inch and a half long was made through the gut: the coats were greatly thickened, but not inflamed. On cutting through the peritoneal and muscular coats, the mucous coat protruded through the incision to a large extent. On opening this, and introducing my finger, I was able to trace the continuity of the gut upwards through the ring, in the course of the ascending colon. The cavity of the tumour was filled with numerous folds of thickened mucous membrane, to which I could not find any opening, except at one point where a circular opening could be felt, but so small as to lead me to suppose it to be the entrance to the processus vermiformis. As far as I could judge, the opinion I had formed was confirmed by this farther examination. The gentlemen present examined the interior of the gut, and came to the same conclusion.

The patient was now so much exhausted, and the case presented so hopeless an aspect, that I did not consider it right to persevere in any attempts to restore the introsuscepted gut. He was accordingly removed to bed, with a large mass of intestine exposed, having an opening at the lower part, through which some flatus passed. His pulse was exceedingly feeble, countenance pallid, and his extremities cold.

An injection of warm water was ordered to be given; the tumour to be fomented with soft wash leather. Warm port wine to be taken frequently.—℞. Tr. Opii m. xx.

The following is the daily report of his progress:

October 5th, eight A. M.—Slight reaction has taken place; he has not vomited since the operation; complains of a good deal of pain about the abdomen; nothing but flatus has escaped through the wound; he is much oppressed prior to its passing.

Ten P. M.—Vital powers much depressed; pulse exceedingly low; no fæces have yet passed through the wound.—He continues to take warm wine and sago.

October 6th, eight A. M.—During the night, a considerable quantity of feculent matter has passed through the opening in the gut, through which a portion protrudes, like a prolapsus of the anus; he is not entirely free from pain, which he attributes to the accumulation of flatus. Upon removing the wash leather which covered the tumour, a discharge of healthy fæces took place. A piece of oil silk was directed to be placed around the base of the tumour, so as to defend the patient's thighs from the discharge which is continually oozing out, to his great relief.

Ordered arrow root, sago, and strong broth, ad. lib.; with Oj. Vin. rub. per diem.—Tr. Opii p. r. n.

7th.—He states that he feels much relieved; abdomen perfectly soft; he is quite free from pain. A layer of lymph covers the protruded intestine, which in part is becoming organised. Soft feculent matter continues to be discharged through the artificial anus.

Same treatment.

8th.—He continues much in the same state as yesterday. The whole surface of the tumour, excepting a spot about the size of half a crown at its lower part, is covered with healthy granulations. His chief complaint is, that he can get no rest at night; his tongue is rather furred; pulse not indicative of much constitutional irritation; he is free from pain.

Tinct. Opii m. xxx.; Aq. M. pip. ℥iss. o. n. —Same diet.

9th.—Much the same as last report.

10th.—The tumour still continues undiminished in size: its lower part, which it was apprehended would slough, is now covered with granulations; feculent matter of a good yellow colour, is frequently discharged from the wound. Patient much oppressed from the accumulation of flatus, which produces slight griping pains. He has had some difficulty in voiding his urine, which is high coloured. The leather seemed to irritate the granulating surface of the gut.

Let simple dressing be used in its stead, over which place a piece of warm flannel.

11th.—Not quite so well; feels exceedingly low; tongue furred, and complains of slight headach. The opening in the gut remains perfectly free.

Same treatment.

12th.—Has had a restless night; feels much exhausted. The sister states that during the night he was at times delirious. He does not complain of pain, yet his countenance is expressive of great anxiety.

13th.—Much worse; he was again delirious last night; tongue covered with a whitish brown fur; natural warmth of the body much reduced; pulse eighty, and tremulous.

In addition to the wine, &c. he was ordered ℥iv. brandy per diem, with eggs ad libitum.

October 14th.—Great depression of vital energy; his features are contracted; pulse exceedingly weak and irregular; tongue covered with a brown fur; he has hiccough, subsultus tendinum, and his extremities are cold; in short, he has all the symptoms of approaching dissolution. No feculent matter has passed through the artificial anus since yesterday morning. Some warm water was directed to be injected in the interior of the gut, by means of a hydrocele bottle with elastic tube affixed, with the view of removing any hardened fæces that might be accumulated there; nothing, however, escaped. Bottles of warm water to be applied to his feet.

15th.—He is still alive. During the night he was much convulsed; his whole body is covered with a cold perspiration; no pulse could be felt at the wrist. He expired at seven o'clock in the evening.

16th.—*Dissection of the body, sixteen hours after death.*—On opening the abdomen, there was an appearance of very slight peritoneal inflammation on the surface of the intestines principally, at the points of contact of the different convolutions. The abdominal ring was large, and free from any stricture. The ascending colon and the lower part of the ilium were seen passing through it. The ilium was prevented from descending further by a firm old band, which connected it with the peritoneal surface of the bladder. It (the ilium) was rather contracted near the neck of the sac, but readily dilated on pressing in the finger. After removing the integuments, an incision was made into the tumour, towards the septum scroti, and a quantity of sloughy cellular membrane and pus was exposed. The bulk of the tumour on this side was composed of thickened and diseased cellular membrane, which enveloped the spermatic cord and the portion of ilium which was tightly bound down in contact with the surface of the colon. This mass of diseased cellular membrane was above four inches in length, and three in depth. The portion of ilium from the inner edge of the ring to its termination in the colon, was about seven inches in length; on the outer side of the exposed gut, towards the thigh, there was another mass of condensed cellular membrane and fat, five inches in length and above three inches and a half in depth. Behind the gut there was a considerable cavity, containing sloughy cellular membrane and pus. The gut itself, which was exposed in the operation, namely, the cœcum and part of the ascending colon, was inseparably connected with these masses of diseased cellular membrane, which kept it stretched and flattened. On slitting up the gut, on that side which had a peritoneal covering, from the part where it had been opened, large folds of thickened mucous membrane were exposed to view, which were much elevated, and the whole presented a convex surface, instead of any concavity: this appearance was produced by the pressure of the tumour on the scrotal side. The valve of the colon was much thickened and prolonged, conveying the idea of a prolapsed anus. This was the portion which had protruded, during life, through the opening which had been made, which allowed of a ready exit for the contents of the small intestines: immediately below this there was a deep cul de sac, into which the finger had passed after the operation. From the situation and prominence of the valve of the colon, it was apparent that this must have been the aperture which was, at the time of the operation, so small, from the swollen mucous membrane, that I mistook it for the opening of the processus vermiformis. The valve of the colon was so much prolonged and so altered in character, that, even when the whole cœcum and colon were opened, some doubts were entertained whether there was not an introsusception of the ileum. The testicle was situated at the bottom of the tumour; its tunica vaginalis, which was inseparably connected with the hernial sac, was opened at its upper part. The testicle was of its natural size, and healthy. The tunica vaginalis was larger than natural, and had contained a small quantity of fluid, which escaped during operation. The whole tumour, when detached from its connexions, was twenty-five inches in circumference, the greater part of which was composed of diseased cellular membrane, behind and around that part of the colon and cœcum which was not covered by peritoneum. The remaining portion of ileum was healthy, as were all the contents of the abdomen.

On maturely considering all the circumstances of this difficult and truly perplexing case, much interesting matter presents itself

for deliberation. In the first place, to what cause was the symptoms of strangulation to be referred? The history given by the patient was obviously erroneous, and affords another instance, in addition to very many which I have met with, of the impossibility of placing the slightest reliance on the accounts furnished by patients of the existing, compared with the previous state, of the hernia. That no sudden increase of volume could have taken place, dissection satisfactorily proved: the situation in which he particularly stated this increase to have occurred, namely, towards the septum scroti, was the principal seat of inflammation and sloughing in the thickened cellular membrane, and it is probable that, from some cause, inflammatory action was set up in this part, which, as I shall presently endeavour to explain, was the cause of the obstruction. That this inflammatory action existed before the operation, is rendered almost certain by the pain which he always expressed as greatest in this part; and, from its not having been disturbed or at all denuded of its natural coverings by the operation, it is not likely to have occurred subsequently to the operation. That the symptoms of strangulation were not referrible to mere constipation, may be inferred from their yielding after the operation, without the exhibition of any medicine except opium, and further from the great tenderness which existed in the whole tumour before the operation. To what then, it may be asked, are we to refer the symptoms of strangulation, and their subsequent removal? To form any adequate idea of this, requires that the parts should have been accurately inspected, and I fear that words alone will be insufficient to convey any satisfactory explanation.

It is clear that the hernia must have existed very many years; it is equally so that no sudden increase in the portion of protruded gut could have taken place; and that no difficulty to the transmission of fæces existed at the ring, is equally obvious. To what, then, are we to refer the symptoms? The following explanation I venture to offer as the impression on my mind:—The valve of the colon was much prolonged into the cavity of the cœcum, and its aperture was diminished in consequence of the thickening of its parietes. The cœcum and colon were so much extended in consequence of their firm attachments to the diseased cellular membrane and its great volume, that the natural cavity of these viscera was nearly obliterated; the under surface of the bowel being pressed up, so as greatly to diminish the calibre of the gut, and to keep the thickened mucous surfaces nearly in contact. Such being the state of the gut, a very little increased pressure would be sufficient to compress the sides of the elongated valve together, and to form a complete stoppage to the passage of the contents of the small intestines. Inflammation from some cause appears to have taken place in that part of the tumour which pressed most on the ilium and the valve; and thus, I conceive, a mechanical obstacle was afforded to the passage of fæces.

The relief to all the urgent symptoms of vomiting and tension, which followed the operation, and the subsequent free passage of feculent matter, fully justifies this explanation.

It may, perhaps, be a question in the minds of some, whether I was warranted in making the opening into the cœcum? The cessation of all the more urgent symptoms, and the complete establishment of an artificial anus, might be urged in support of the measure,—if success ought ever to be brought forward in justification of a wrong, or even a doubtful measure. But I do not wish to make my stand on such grounds, as I humbly conceive that the principle on which I acted was justifiable; and I am willing, therefore, to court discussion on the subject, as likely to be beneficial in the possible occurrence of any similar case.

The urgent symptoms of strangulation which existed when the patient was admitted into the hospital, and his repeated declaration that it had suddenly increased in volume during the exertion of sneezing and coughing, imperiously called for an operation. Having commenced it, and exposed a large surface of intestine, and not having found any recently protruded portion, or any sufficient cause to explain the nature of the constipation, it became necessary to investigate more narrowly that portion which was exposed, and this led to the supposition of an introsusception through the valve of the colon; a supposition which was strengthened by the examination after the opening had been made, and which was not wholly disproved by the complete exposure of the parts after death.

Supposing such an introsusception to have existed, the opening of the bowel, and the establishment of an artificial anus, was the only plan of treatment which afforded even the remotest shadow of a successful issue, under all the circumstances which have been explained in the account of the operation. To have left the patient without making this further effort would not have been justifiable, and would have been a total abandonment of the case. The adoption of this measure unquestionably relieved the more pressing symptoms, and prolonged the patient's existence.

The features presented by this case were altogether new. The situation in which I was placed was difficult and perplexing. The motives which influenced my practice I have endeavoured to explain: at the same time, I wish to express my desire for information from those who may have met with any similar cases, and my openness to conviction should any reasonable objections be raised to the line of conduct which I pursued.

FATAL CASE OF LITHOTOMY.

J. S. a countryman, æt. 57, entered Guy's, July 14th, under Mr. Key, with symptoms of stone, of considerable standing. A sound

was passed, and a calculus readily detected; his health had lately become disturbed, but his appearance, on the whole, was good. On the 24th, Mr. Key operated with the knife and straight staff; an artery, apparently that of the bulb, being divided, was secured by ligatures, and a stone, about the size of a halfpenny, extracted without difficulty. 26th. Much uneasiness about the stomach and bowels, which was attributed to flatulence, as the patient had suffered from this previously. Castor oil was given, and copious motions obtained. 27th. Abdomen very tympanitic —frequent eructations—pain and uneasiness of the bowels—respiration hurried—pulse moderate, but intermitting at every fifth or sixth beat. Has passed offensive fluid motions, and vomited once, the matters being mixed with much bile. *Hydr. c. cretâ, gr.* iij. *Conf. Opii, gr.* v. *4tis horis.* 28th. Abdomen less distended—purging—countenance anxious—hiccup. *Leeches to the abdomen—medicines to be continued.* 30th. Yesterday morning, hæmorrhage, to six or eight ounces, took place from the wound, and was stopped by pressure; but in a few hours, a second small bleeding took place. In the evening he rallied a little, but this morning the bowels are loose—the pulse feeble—skin cold. *Amm. subcarb. gr.* v. *Camph. gr.* iij. *Opii, gr.* j. *statim.* He continued, however, to sink, and died in the evening of August 1st.

Dissection. No inflammation of the peritoneum, or cellular membrane posterior to the bladder. The viscera have an ecchymosed appearance, and the cellular tissue is lax, and readily torn. Muscular substance of the left ventricle considerably thickened, with here and there deposits of a yellow colour; loose edges of the mitral valve converted into a hard ligamentous substance. Mucous membrane of the stomach and bowels rather vascular, as was that of the bladder; cortical portion of the kidneys mottled and easily broken down.

Remarks. It is abundantly evident that this patient died of the shock given to the constitution by the operation, somewhat aided perhaps, by the subsequent hæmorrhage, small in quantity though it was. The symptoms throughout were not those of inflammation, but of depression, and it may admit of doubt whether support to the system might not have been substituted, with advantage, for the leeches which were employed. We have one remark to make upon the intermissions of the pulse. We are confident that this is not so untoward a symptom as some imagine, for we have again and again seen the pulse intermit after operations, and the patient do remarkably well notwithstanding. It may certainly depend at times upon the organic disease of the heart, but in very many cases we are sure it does no such thing. As the cause of death after lithotomy is a question both of great interest and importance to the surgeon, we shall here introduce a case which occurred some short time ago at St. George's Hospital.

Case. T. Hollamby, æt. 65, a stout hale looking countryman, entered St. George's under Mr. Brodie, May 9th, 1827, with all the symptoms of calculus in the bladder, on sounding which the stone was readily discovered. He had first begun to suffer from the pain in making water, &c. about a twelvemonth ago, and was affected with an old rupture on the right side, and hydrocele to boot. On the 31st, the lateral operation was performed. The perineum was exceedingly deep, the stone small and impacted behind the prostate, so that considerable difficulty was experienced in its extraction. Next day he was pretty comfortable, but on the evening of the 2nd June he became restless and anxious, and the pulse got frequent. *Haust. sennæ,* ʒij. *statim. H. Salin. Vin. Ant. Tart.* ℥ xx—*6tis Horis.* On the 3d, the belly was rather timid and tender on pressure—the pulse quick, and intermitting about every 8th or 10th beat. The bowels had been open. 4th. Much the same—manner quick and anxious—"beef-steak tongue." 3rd. Delirious last night, and rather light-headed to-day—pain on pressing the abdomen greater—pain in the right hand and wrist, with occasionally a degree of tremor over the body; pulse quick and intermitting—tongue dry and furred—urine to-day does not flow so freely from the wound. The finger was now passed up the rectum as high as it would reach, whilst into the wound in perineo a probe-pointed bistoury, having a sliding sharp-pointed blade concealed in it, was introduced. When the probe-end had reached the cellular membrane at the neck of the bladder, the sharp point was pushed forwards, and the part laid open into the rectum, by cutting upon the finger in the gut. This was intended to give a free discharge to any matter which might have formed in the vicinity of the bladder, a circumstance not uncommon in patients with a deep perineum. The posterior part of the scrotum being swollen, an incision was made into it, and vent given to some matter in the cellular membrane. An opening which had been made yesterday, more anteriorly, was next enlarged, but here the cellular membrane contained not pus, but serum. Some vessels were divided, and easily secured. 6th. The patient had not rallied since the operation, and at five o'clock this morning, he died. The urine had always flowed freely from the wound, except on the 5th, as has been mentioned.

Dissection. In the cellular membrane between the prostate and rectum, and towards the left side was a pouch, the size of an egg, containing grumous and putrid blood, the cellular texture in the neighbourhood being in a sloughy state. A little below this sac was the opening into the rectum, in which there was also some putrid blood. The cut in the prostate was rather small, the gland not being by any means divided across. Nothing farther of any consequence was observed about the body.

Remarks. There is a great similarity be-

tween this case and the preceding, the lodgment of blood in the cellular tissue around the prostate constituting the only difference. Whether the symptoms in the latter case were mainly referrible to this cause, is, we imagine, problematical, for they bore a very close resemblance indeed to those which occasionally supervene on the greater operations, and are commonly referred to the shock given to the system. The incision of the prostate was small; this we know is recommended by high authority in the profession, for by a small incision, it is said, we in a great measure avoid hæmorrhage. It may be so; but if the cut in the prostate be confined, so must be that in the cellular membrane immediately behind it, and this we should humbly conceive, would rather prevent the free escape, and, by consequence, favour the extravasation of urine or blood as the case may be.—*Med. Chir. Review.*

SIMPLE CHRONIC ENLARGEMENT OF THE TESTICLE.

We are confident that many testicles are extirpated in this country, and more especially on the continent, for that affection termed by Sir A. Cooper, "chronic enlargement," which is entirely under the influence of mercury. The following case shows the powers of this mineral over the disease.

C. S. æt. 21, entered Guy's Hospital, under Mr. Key, on the 20th June, with the left testicle six times as large as natural. The enlargement was flattened and very hard at the sides, not so firm in front, where the skin, which was not at all discoloured, had become adherent to it. The epididymis was enlarged and hardened, as also was the cord. There was a throbbing pain in the part, and in the left thigh. He stated that he had been affected with a purulent discharge from the urethra for several weeks, that, during this time, the swelling had commenced, and had gone on increasing, in spite of leeches, up to his admission. He was cupped, and took a saline draught with tartar emetic. Next day he was put upon calomel and opium. In the course of ten days, ptyalism supervened, and on the 9th July, little more than three weeks from the time of his entrance into hospital, there remained only a little hardness of the cord and epididymis.—*Ibid.*

STRANGULATED HERNIA IN THE DIAPHRAGM.

N. G., aged 24, an officer on half pay, had received, in 1815, a wound from a lance under the eighth rib of the left side, and had ever since complained occasionally of pain at the lower part of the chest of the same side, connecting the pain with his old wound. During the carnival of 1819 he had been guilty of imprudent excesses; and having exposed himself to cold after being heated at a ball, on the night between the 25th and 26th of February, he felt an acute pain in the usual place. This continued to augment considerably during six days, and on the 4th of March he went into the Military Hospital at Metz in the following condition:—severe pain over all the abdomen, but particularly in the seat of the wound; obstinate constipation; belly swollen and tense; sickness and disposition to vomit; respiration difficult, interrupted, and laborious; pulse small, oppressed, and hard; face livid, expressive of the most intense suffering. *Thirteen leeches to the abdomen; purgative injections.* On the 5th, these were returned without any feculent matter, being mixed merely with some mucous substances: pain increased, and the anxiety is extreme. *Calomel gr. vj.—purgative injections.* No alteration on the 6th. Died on the 7th, after the most horrible sufferings.

"*Dissection*—thirty-six hours after death. On opening the abdomen the whole intestinal mass was found enormously distended. The transverse colon had acquired the size of a loaded stomach; the angle formed at its descending portion passed through an opening in the left side of the diaphragm, about an inch in diameter, and was found in the thorax. The portion introduced and strangled by the diaphragm was about the size of the fist; completely gangrenous; of a grayish black colour, and so softened that it could hardly be touched without being torn, and letting its feculent contents escape. The base of the strangulated part adhered to the opening of the diaphragm by strong fibro-cellular bands. The descending and iliac portions of the colon, as well as the rectum, were greatly reduced in diameter, contracted here and there, and entirely empty, without any traces of inflammation." "The left cavity of the thorax was filled with fœtid gas, and a thick grayish liquid. The left lung was contracted upwards, reduced to a very small bulk, and applied to the vertebral column."—(*Journal des Progrès des Sciences Médicales, &c.*)

On looking over the Repository for 1819, we notice a case in many respects resembling this. The subject was a soldier, also wounded by a similar weapon, and probably on the same occasion. The viscus strangulated, however, was the *stomach*, through a preternatural orifice in the diaphragm caused by the wound.—*Lon. Med. & Phys. Journal.*

CASE OF A MOST ENORMOUS OSTEO-SARCOMATOUS TUMOUR OF THE ILIUM AND FEMUR.

Arising from and covering the whole of the left os ilium, the ascending ramus and tuberosity of the ischium, adhering to the symphisis pubis, and the edges of the thyroid foramen, and involving the two superior thirds of the thigh bone, is an osseous growth of most prodigious size, which measures 24 inches in circumference. This tumour projects most con-

siderably from the ilium, where it forms a tumour which is attended with so much deformity as to arrest the attention of every eye. The surface of the disease is extremely irregular, forming at several places knots of various sizes: it is not completely composed of bony matter; at several points it is soft, its structure being apparently interspersed with fleshy materials. The situation of the trochanters is well marked, as they seem to be lengthened out by osseous deposition; the motions of the hip joint are entirely lost; the articulation is immovably fixed, and is preserved in a semiflexed state. The man is scarcely able to move, lying generally on a bed with his body prone. He experiences constant and severe pains, to alleviate which he is obliged to be constantly under the influence of narcotics. The tumour, from passing so far backwards, obstructs the discharge of the fæces; his general health has suffered much; he is weak and emaciated.

The disease commenced thirty-eight years ago after the receipt of a kick on the ilium from a horse; this was followed by a small hard swelling, which nine years ago began sensibly to increase. During the last four years it has enlarged with astonishing and alarming rapidity.

This enormous tumour, the largest of the kind we recollect ever to have seen, has all the characters and appearance of the osteo-sarcomatous enlargement. The case is one of a melancholy and hopeless nature, and palliative remedies, with a view of relieving his sufferings, were all that Mr. Wardrop had it in his power to recommend.—*Lancet.*

EXTRAVASATION OF URINE *into the Corpus Spongiosum and Corpora Cavernosa Penis, producing Mortification of those Parts, and the Death of the Patient. Treated at St. George's Hospital,* by Mr. Jeffreys.

In the more ordinary cases of extravasation of urine, the rupture of the urethra takes place between the bulb and the bladder, and the urine is forced into the cellular membrane surrounding that part of the canal. The symptoms produced by this accident are of a most formidable description, but, by prompt and skilful management, the life of the patient may frequently be saved. Sometimes the breach takes place in the anterior part of the urethra, and the urine escapes into the corpus spongiosum; more rarely it gets also into the cells of the corpora cavernosa: in both cases mortification of the parts is sure to follow, and the patient seldom or never recovers. The subjoined case affords an example of this accident, and fully illustrates the uncontrollable ravages produced by urine, when effused into the cells of the corpora cavernosa and corpus spongiosum.

William Willis, forty years of age, was admitted into St, George's Hospital, Friday, April 20th, 1827, with swelling and mortification of the penis, the consequence of an extravasation of urine; of which he gave the following history:—In the summer of 1826, he first observed that he had a difficulty in making water, and that it came away in a smaller stream than formerly, and at more frequent intervals. Towards Christmas these symptoms became more severe, and were accompanied by a gleety discharge, and at times he could only void his urine in drops, with much pain and straining. Latterly he had been subject to attacks of fever, with rigours, &c. The last of these had occurred about eight days ago, at which time there came on a constant dribbling of the urine, with swelling, pain, and inflammation of the penis. These symptoms got daily worse, and on Wednesday (two days previous to his admission) a small black spot appeared on the glans penis, near to the frœnum. This had spread with great rapidity, and now occupied more than two-thirds of the glans penis, and a considerable portion of the under part of the prepuce and corpus spongiosum. The penis, anterior to the scrotum, was prodigiously swollen, and the integuments covering it were of a deep oranged colour, and much distended. He complained of great pain, and his urine dribbled away incessantly; but he said there had been no complete stoppage. He had a pale anxious countenance, a brown furred tongue, and a good deal of fever. The mischief appeared to be confined to the anterior part of the penis, the scrotum and perineum being entirely devoid of swelling and pain; and there could be no doubt, from the condition and appearance of the parts, that a breach had been effected in the urethra, a a little way behind its termination in the glans penis.

With the approbation of Mr. Brodie and Mr. Rose, who happened to be in the hospital, I made an incision along the left side of the penis, where a strong sensation of fluctuation led to the expectation of finding a urinary abscess, and carried it through the ligamentous theca of the corpus cavernosum; the cellular membrane was in a state of slough, and loaded with urine; and the internal structure of the corpus cavernosum was of a dark colour, nearly resembling its natural appearance; but no distinct abscess was met with. Another incision was then carried through the mortified portion of the prepuce and corpus spongiosum, nearly to the scrotum, by which the urethra, also in a state of sphacelus, was exposed; and an attempt was made to pass a flexible gum catheter into the bladder; but neither that nor any other instrument could be got further than the membranous part of the urethra. A third incision was therefore made through the perineum into that portion of the canal, in order that a free and easy passage might be given for the discharge of the urine from the bladder.

The penis was enveloped in a large stale-beer poultice; and he was directed to take immediately ten grains of the Dover's powder, and afterwards, at intervals of four hours, a saline draught, containing half a

drachm of the Sulphate of Magnesia, and three grains of the Pulv. Ipecac. comp. Beef-tea and arrow-root to be taken frequently.

In the evening, he was in all respects much relieved. He had enjoyed some refreshing sleep; had voided his urine very freely through the wound in the perineum, a small portion of it having escaped each time by the sloughy opening in the corpus spongiosum, and he complained less of pain in the parts. Pulse ninety-six; tongue dry in the centre.

He slept well in the night, and the next day (April 21st,) the pain and swelling of the penis were considerably reduced; he made water freely by the perineum, and said he felt much more comfortable. Not having had any stool, he took an ounce of Castor-oil early in the morning, which procured one plentiful evacuation; after which he was allowed four ounces of port-wine in the day; and was ordered the following draught every four hours.

℞. Decoct. Cinchon., Mist. Camph. āā ℥ vj.; Tinct. Opii gtt. v. M.

In the afternoon, he had two more purging stools from the oil.

April 22d.—Had slept in the night, but was occasionally delirious. He was more heated and feverish; had a dry, furred tongue, with much thirst; and his pulse was 100 in the minute. The sloughs were beginning to separate from the integuments at the under part of the penis.

He was ordered to omit the wine and bark draught, and to take Ol. Ricini ℥ ss.; and afterwards three spoonsful of the following mixture every six hours:—℞. Mist. Camph., Liq. Ammon. Acet. āā ℥ iv.; Vin. Antimon. Tart. ℥ij. M.

23d.—Had been light headed in the early part of the night, but his bowels had acted freely, and he was not so feverish. The whole of the glans penis was in a state of mortification, with the exception of a small narrow portion of the corona glandis, about a line in width: at this part a line of separation had begun, and the sloughs at the under part of the penis were more loose.

24th.—A light erysipelatous redness had appeared about the perineum and the inside of the thighs; his pulse was not so strong, and he seemed to be more weak and languid.

He was ordered some porter, and the following draught:—℞. Infusi Rosæ ℥ jss.; Tinct. Cinch. comp. ℥ j.; Magn. Sulph. ℥ ss.; Syrupi ℥ss. M. fiat haustus ter in die sumendus.

25th.—The separation of the mortified parts from the integuments was completed, leaving the latter in a sound and healthy state, but entirely detached from the corpora cavernosa and corpus spongiosum, which were in a complete state of gangrene and slough throughout their whole extent.

On the 26th the erysipelas had spread to a small extent over the left buttock, upon which a few slight vesications had formed. The mortification of the corpora cavernosa appeared to have reached to each crus penis. He was much weaker; had a pale clammy countenance; tongue dried and furred; pulse 120.

Porter, wine, arrow-root, &c. were given at short intervals; and he was directed to take two grains of the Sulphate of Quinine every four hours.

On the 27th, he was much in the same state, and his skin covered with a profuse cold perspiration.

On the 28th, the erysipelas had nearly disappeared from the nates, and was spreading, of a pale colour, and without vesications, over the groins. The mortified corpora cavernosa and corpus spongiosum were entirely separated from the arch of the pubes and the scrotum, but adhered firmly to the parts below. A small portion of urine oozed out over the front of the scrotum every time he made water, but the greater proportion was voided freely in a stream by the opening in the perineum.

On the morning of the 29th, he died.

Dissection.—The corpora cavernosa, quite down to their origin from the ischia, and the corpus spongiosum, includimg the bulb, were completely black and mortified: no vestige of their natural structure remained. The coats of the bladder were more than half an inch thick; its internal coat, which was much corrugated, was of a dark colour, and covered with patches of coagulable lymph, closely adhering to its surface. The Urethra had been cut into at the membranous part, from whence to the bladder it was quite pervious. Upon its inner surface were patches of coagulable lymph, like those in the bladder.

From the Lancet.

On the part performed by the Sympathetics in the Functions of the Senses. By Professor Tiedemann.*

By the dissections of modern anatomists, particularly those of Bock, Hirzel, Jacobson, and Cloquet, the sympathetic nerve has been found to send filaments of communication to most of the cerebral nerves, and directly or indirectly to all the senses. The eye possesses the ciliary ganglion, which is generally in connexion with the first branch of the fifth and third pairs, and not unfrequently with the sixth. Besides these, there are usually some filaments extending directly from the ganglion in the carotid canal to the ciliary ganglion, or in communication with it through the medium of the sixth. In this manner the ciliary ganglion is in direct connexion with the sympathetic, and is regarded by some anatomists, among whom Professor Tiedemann may be mentioned, as a part of this nerve.

The organ of hearing is connected with the sympathetic by several twigs. It receives branches from the ganglion of the glossopha-

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* Tiedemann's and Treviranus's Zeitschrift fur Physiologie. Vol. I. p. 2.

ryngeal nerve, the spheno-palatine ganglion, and the superior cervical ganglion. These twigs unite in the tympanum, and form a plexus, from which others are given off to be distributed to the membranes covering the finestræ rotunda and ovalis, and to the Eustachian tube. In addition to these, the tensor and laxator tympani and the stapedius, receive minute filaments from the chorda tympani, which, according to Cloquet and Hirzel, is a branch of the spheno-palatine ganglion, and not of the portio dura.

The organ of smell receives very numerous and important nerves from the spheno-palatine ganglion, which, on account of the close communication between it and the sympathetic, may be regarded as a part of this latter nerve. These nerves accompany the posterior nasal artery to the membrane lining the septum and the conchæ. A twig from these nerves descends on the side of the septum into the canal behind the incisor teeth, and forms a small ganglion (ganglion incisivum,) from which filaments are distributed to the mucous membrane of the palate.

Lastly, the tongue is connected with the sympathetic, partly by the branches which surround the lingual artery, and partly by the chorda tympani, which is either joined to the gustatory branch of the fifth pair, or in close apposition to it.

From this connexion which exists between the sympathetic and the nerves supplying the organs of senses, professor Tiedemann has drawn the following conclusions:—

1. That the sympathetic performs a considerable part in the functions of the senses, keeping these organs in their proper condition by the influence which it exercises on the process of nutrition.

2. That by its influence the secretion of the media is probably effected, through which the action of external objects on the nerves of the senses is effected.

3. That on this nerve the automatic motions in the organs of the senses depend, which regulate the force of the action of external objects on the nerves of these parts.

Prof. Tiedemann then relates some of the most important sympathies between the organs of senses and the principal vital organs, accounting at the same time for their occurrence, by reference to the connexion which exists between their different nerves.

Sympathy of the Eyes with each other, and the principal Vital Organs.

We observe in the eyes several sympathetic appearances, both between the different structures of the same eye, and between both eyes, as well as between those organs and parts remote from them. As far as concerns the sympathy between the various structures of the eye, we know that the globe is very intimately connected with the secretory organs in its vicinity and the eyelids. If the eye be long exposed to the action of strong light, the tears flow. This increased secretion is only to be accounted for by the irritation produced on the ciliary nerves, through them on the ciliary ganglion, and through the ciliary ganglion on the long branch of the fifth pair, from which the nerve to the lachrymal gland is sent. If the eye be exposed to the action of brilliant dazzling light, the eyelids are suddenly and almost convulsively closed. The motions of the eyelids are certainly under the dominion of the will, since we can open or shut them at pleasure; but this sudden closure of the lids cannot be regarded as a voluntary act, but the effect of an involuntary irritation, propagated from the ciliary nerves, to those of the eyelids. To this it may be added, that the eyelids in persons when asleep contract on exposure of the eyes to strong light, without the person being conscious of what is occurring. Farther, it is well known, that even for a few seconds together the eye cannot be kept open against the sun, and that the eyelids involuntarily close. And lastly, when the iris, which receives its nerves from the ciliary ganglion, is inflamed, intolerance of light and constant blinking exist.

If the divisions of the first branch of the fifth pair which go to the eyelids, the integuments of the eyebrows and forehead, be injured, the functions of the eye are mainly disturbed; in such cases dilatation and fixedness of the pupil, and sometimes even amaurosis, occur. Morgagni* conceived that amaurosis, when it occurs from these accidents, is occasioned by the irritation continued along the frontal nerve, to those fine filaments which accompany the sheath of the optic nerve, which, in their turn, act on the optic nerve itself. According to Ribes,† Wardrop,‡ and Walther,§ the irritation is propagated from the wounded frontal to the ciliary nerves, on which nerves these appearances depend. Ribes conceives that the retina, which probably receives branches from the ciliary ganglion, is brought into a state of inactivity. Walther, on the contrary, thinks, that the iris becomes primarily, and the retina secondarily affected. It appears, however, probable, that the division of the frontal and supra-ciliary nerves, by their connexion with the ciliary ganglion and nerves, acts on the vessels of the iris and retina. Probably congestion of blood in the retina and iris takes place, by which their functions are destroyed, or the nutritive process disturbed. A singular case, in illustration of this subject, came under the notice of Professor Chelius,

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* De sedibus et causis morborum. Lib. I. Epist. 13, No. 5.

† Recherches Anatomiques et Physiologiques sur quelques parties de l'œil a l'occasion d'une plaie de tete. En Memoires de la Societé de l'Emulation, T. II. p. 86.

‡ Essays on the Morbid Anatomy of the Eye. Vol. II. p. 180.

§ Grafe's and Walther's Journal. Vol. III. p. 1.

of Heidelberg: a girl received a blow on the forehead, which was followed by dilatation of the pupil, and loss of the sight of one eye. By the application of leeches to the forehead, cold, and repeated blisters, the sight was completely restored.

Wounds, or injury generally, of the ciliary body, produce, according to Beer, dilatation and fixedness of the pupil, and amaurotic blindness. Wardrop observed the same effects after a wound of the conjunctiva. These morbid conditions can only be explained by the injury of the ciliary nerves, and their reciprocal actions on the blood-vessels of the iris and retina. The dilatation of the pupil, by the use of narcotic substances, is attributed by most surgeons to their action on the ciliary nerves, and the action of these nerves on the iris. Between both eyes there is a very strong sympathy, which may be strikingly observed in the motions of the iris. If we close one eye suddenly, the pupil of the other becomes somewhat dilated; and, on allowing the light to fall on both eyes, the pupils contract. In many cases of amaurosis, where one eye only is affected, the iris retains its motion; and, on exposure of the diseased eye to strong light, the iris is not sensibly affected, being quite independent of the irritation on the healthy eye. If, on the contrary, the light should fall on the amaurotic eye, or if the eye be closed, the pupil of the healthy organ will not be changed. But if the healthy eye be exposed to the light, or if it be shaded, contraction or dilatation of the amaurotic eye ensues. Here the branches from the ciliary ganglion, accompanying the arteries to the retina of the affected eye, appear to be paralyzed in their action; whilst, on the contrary, the ciliary nerves of the iris seem to retain their power, and to be affected by the irritation of the other eye, which is extended to the moveable iris. But, in what way is a sympathy between the two irides kept up? According to Haller and Zinn, the sympathy between the two eyes is created in the brain. Wardrop, and others, explain it by the interlacement of the fibres of the optic nerves. Others, among whom Troxler may be mentioned, think that the irritation of one eye is propagated to the other by the nasal twig of the first branch of the fifth pair, and by means of the Schneiderian membrane. Against all these opinions, very forcible objections may be raised. As to the notion that the sympathy is created in the brain, it is scarcely possible to conceive that this organ would act at the origin of the optic nerve merely on the ciliary and not on the other nerves of the eye. Against the opinion of Wardrop it may be stated, that the optic nerve of an eye, which has lost for some time the power of vision, generally falls into a state of atrophy, and, therefore, most probably loses the power of propagating the irritation of one eye to the other. Against Troxler it may be urged, that the mucous membrane in each nostril is so separated by the bony and cartilaginous septum, close to the posterior nares, that no communication between the two nasal twigs exists.

As the motions of the iris depend on the ciliary nerves, so the sympathy between the iris of each eye also depends on the same cause. The pituitary gland is a body uniting the branches of the sympathetics, and of the nerves of both eyes. We know from Fontana's investigation, that branches of the sympathetic ascend on the carotid, and are connected with the pituitary gland. Bock, Cloquet, and Hirzel, have also observed these twigs, which come in part from the ascending branches of the sympathetic nerves, and in part from the carotid ganglion to the pituitary gland. The communication between the two ciliary ganglia, or the ciliary nerves, and the sympathetics, has been established beyond doubt. Hence the pituitary gland is evidently a medium of connexion between the sympathetic nerve of each side of the head, and, consequently, of the ciliary nerves of both sides, and, in this way, the sympathy between these organs is maintained. The pituitary gland has, moreover, in its fine texture and reddish gray substance, which particularly exist in the ganglia of the sympathetic, great similarity with a ganglion of this nerve. In addition to the sympathy existing between the motions of the irides there are other appearances which equally merit our notice. If one eye suffers, the other frequently suffers with it. If there be inflammation of the iris of one eye, or opacity of the lens, or staphyloma of the cornea, the same complaint not unfrequently makes its appearance in the other eye. These, and similar sympathies, can only be explained by the connexion between the ciliary nerves and ganglia of both eyes.

We will now briefly allude to certain sympathies existing between the eyes, and other organs situated at a distance from them. Bright light falling suddenly into the eye, sometimes occasions sneezing. This phenomenon may be explained by the connexion of the ciliary nerves with the branches of the sympathetic, and the sympathetic with the phrenic nerve. The peculiar tickling in the nose, which precedes the sneezing, is produced by the connexion of the ciliary nerves, and ganglion with the ethmoidal nerve of the first branch of the fifth pair, which leaves the orbit to be distributed to the membrane covering the conchæ.

In wounds of the eye, for instance in those of the iris, vomiting comes on which can also be explained by the communication between the ciliary and sympathetic nerves, and between the sympathetic and the eighth pair. Beer* sometimes observed, during the depression of the lens, vomiting ensue, if the ciliary body were irritated or injured. The connexion then between the ciliary ganglia and nerves, the sympathetic and par vagum, and

* Lehre von den Augen-Krankheiten, B. 2. s. 352.

the connexion between these and most of the other nerves in the body, are sufficient to explain the sympathy which exists between the eye and other organs of the body.

ON THE HUMAN VOICE.

By P. Mayer.

(*Meckel's Archiv. fur Anat. and Physiol. Second Part.*)

P. Mayer commences with an examination of the muscles which move the chordæ vocales, the chords themselves, the nerves which exercise an influence on the vocalization of sound, and considers the part which the epiglottis performs in this phenomenon. He also mentions the different kinds of voice, the difference between a strong and a soft sweet voice; explains the mechanism of the speech, and gives a new theory of ventriloquism.

In order to give an exact idea of P. Mayer's investigation, it is necessary to enter into some details on each of these subjects.

He entertains a different opinion from the one generally received, on the action of the muscles. Proving that the glottis may experience two different modifications in the opening of the chordæ vocales, and in the tension of these chords, he divides the muscles of the glottis into five orders, viz:—

1st. Muscles which open the glottis, and relax the chordæ vocales. (*Dilatores* and *laxatores.*) They are the two hyo-thyroid and crico-thyroid muscles. The first, in this case, rests on the thyroid cartilage, and draws the os hyoides on it.

The *crico-thyroid* muscle draws the thyroid cartilage on the cricoid, which remains fixed.

2d. The muscles which contract the glottis, and extend the chords, are the *constrictores* and *tensores glottidis.* These are the same muscles acting in an opposite direction. The first rests on the os hyoides, the second on the thyroid cartilage.

3d. The muscles which dilate the glottis, and at the same time stretch the chords, are the *dilatatores* and *tensores glottidis;* these are the crico-arytenoid muscles.

4th. Muscles which relax the chordæ vocales, and, consequently, draw back the glottis.

P. Mayer, who adopts the opinion of Soemmerring and Meckel, places here the lateral crico-arytenoid and thyro-arytenoid muscles. When these muscles both act together with the posterior crico-arytenoid, they become, on the contrary, tensors of the glottis.

5th. Lastly, the muscles which straighten the glottis, without acting on the chords, are the oblique and transverse arytenoid muscles; externally the arytenoid muscle and a fibro-cartilaginous layer, into which its fleshy fibres are inserted. This layer resembles the section of a circle, and is situated so that its convexity looks upwards, and the chord of the arch, which it forms, downwards. Between the fibrous bundles of this layer, a conglomerated gland is seen. This layer is called the superior vocal cartilage, and may be seen very distinctly in a great number of mammalia.

The inferior vocal chord is a fibrous, soft layer, and only presenting a small cartilaginous nucleus, about the size of a grain of barley, situated at the angle of the thyroid cartilage, very near that of the opposite side. These cartilaginous nuclei, considerably developed in most mammalia, are quite distinct in some species of monkeys. These bodies evidently increase the elasticity of the cartilages of the larynx, and, consequently, the power and intenseness of the vibrations.

On the Nerves of the Larynx.—It is well known that Rudolphi, in his Physiology, states, that he possessed a larynx which demonstrates the incorrectness of Magendie's assertions, relative to the distribution of the laryngeal nerves. There are anastomoses of the two nerves near the plexus, as the plates of Monro show; and it would be very difficult to decide to what nerves the filaments, proceeding from these anastomoses, belong. P. Mayer is of opinion, together with Scarpa, that the superior laryngeal is particularly destined for sensation.

On the formation of the Voice.—Dodart, in 1707, explained the modulations of the voice, principally by the dilatation and contraction of the glottis. Ferrein, and some years after Rungo, opposed this theory; and considering that the inferior chords alone were in the larynx, endeavoured to find the cause of sound in their vibrations. They made the different degrees of sound dependant on these ligaments, considering it as a point of no consequence whether the glottis were open or not, or whether both chords or only one were put in action. Liskovius published, in 1814, a work on the voice, in which, attacking the theory of Ferrein, he endeavours to revive that of Dodard, but with several modifications. P. Mayer successfully combats the opinions of Liskovius, and shows that the true theory of the voice consists in the union of the theories of Dodart and Ferrein, but giving to the latter the principal part. The following are the points which must be considered, in the production of the voice:

1st. The tension and vibration of the inferior chordæ vocales, an essential condition of this phenomenon. This vibration may be perceived on one's self, and in experiments on living animals. It is more accelerated in high sounds. By pressing on the larynx, the vibration is impeded, and with it the voice ceases. It can alone produce a great number of sounds. It is even sufficient, that one chord only should be put in action.

2d. The dilatation and contraction of the glottis are not the essential cause of the voice, but are necessary, in as much as the column of air is more or less pressed against the tendinous chords, and, consequently, produces their vibration to a great extent.

In order to prove that the variations of the opening of the glottis are not an essential condition of the voice, P. Mayer observes.—

1st. That Ferrein and Rungo produced very high sounds, when the glottis was widely opened.

2d. That the same sound can be produced during inspiration as well as expiration. But it is found, that the glottis is enlarged during inspiration.

3d. That the glottis is straightened during the production of the lower sounds, which is easy to be perceived, and which is necessary, in order that the vibration of the chords, till then very relaxed, should be effected. This explains why very low sounds can only be produced during inspiration.

4th. That the high sounds are more easily produced during inspiration than expiration.

5th. That it is impossible to elevate the sound by the simple contraction of the glottis, since the chords must be stretched. From these considerations P. Mayer concludes, that the variations of the opening of the glottis are only an accidental condition in the production of the voice. The elongations of the trachea during high, and its shortening during low sounds, have no sensible effect on these sounds in man and other mammalia; it is not the same with birds, where the trachea is situated above the glottis; and is susceptible of very extensive motions.

P. Mayer concludes by saying, that the organ of voice in man is neither similar to a stringed instrument, nor to a wind instrument, nor to a pipe of an organ, but to a pipe susceptible of vibrations, in the interior of which, two mouth-pieces are situated, the glottis and isthmus faucium; the first of these is the seat of voice, whilst the second modifies it. The opening of the tube may differ in size: it possesses several valves susceptible of varied motions, viz. the epiglottis, the velum palati, the tongue, which modify the sound produced by the glottis.

On the Influence of the Epiglottis in the Formation of the Voice.

The author has refuted in a preceding article the assertion of Magendie relative to the inutility of the epiglottis during deglutition. He here proves that this organ serves not only for deglutition, but even for the vocalization of sound. It is easy to be convinced on one's own person, that in low sounds the epiglottis rises and rests on the back of the tongue; but the most remarkable fact is, that the epiglottis should become altogether flat. In the high sounds, on the contrary, it becomes horizontal, and what is the essential point, its two sides roll inwards, so that the epiglottis forms a kind of horn, which receives the sound, and condenses the sonorous undulations. Moreover, the epiglottis vibrates at the instigation of the chordæ vocales, and these vibrations depend on its greater tension. It is probable that there is an exact relation between the tension of the chords and that of the epiglottis; these motions still serve to strenghten the sound.

On the Difference between the Full Voice (vox pectoralis,) and the Soft Sweet Voice (vox collaris.)

Liskovius thinks, that the latter voice results from the approximation of the chordæ vocales, and of their simultaneous tension, whilst the full voice is produced by the approximation of the chords only. The soft sweet voice is wanting in several individuals. It is very useful in singing, principally for the tenor, when it is necessary to pass from the full to the soft sweet voice, without a sudden transition.

P. Mayer rejects the theory of Liskovius on the soft voice, and makes the difference which exists between this and the full voice depend on two causes.

1st. The inferior chordæ vocales are more extended, and the glottis straighter in the soft voice. The larynx ascends, so that the voice is raised, as during the production of the full voice.

2d. The principal difference which exists in the full voice is, that the pillars of the velum palati are relaxed. In the soft voice, on the contrary, these pillars are elevated in proportion as the voice is raised, and constitute a longitudinal fissure, a second glottis of the isthmus faucium. At the same time the uvula is carried alternately forwards and backwards.

Ventriloquism,

According to P. Mayer, is produced in the glottis as the ordinary voice, but during inspiration. A ventriloquist begins by dilating his chest with a considerable quantity of air, to give sufficient resonance to his voice. The deception depends on the following circumstances:—

1st. The ear does not directly receive the sonorous undulations as before, and we look elsewhere than in the belly for the sounds, which we do not perceive coming from it.

2d. By the strong dilatation of the larynx and of the chest, the sounds are strengthened by a small echo, and become hollow, which leads us to believe that the person we hear is at a great distance below us.

3d. As the larynx descends for about an inch, the sounds are much deeper and more elongated.

4th. A fourth mode of deception is the almost complete shutting of the mouth; it is reduced to a simple fissure. The tongue is thrown back, the point of which rests against the palate; a means by which the sonorous undulations are to a great degree forced to pass by the nose. The noise of a ventriloquist is in general of an octave, much higher than his common voice, which completely changes the voice. It will be seen that this theory differs from that which supposes that the ventriloquist speaks during inspiration.—*Ibid.*

From the Medico-Chirurgical Review.

CEREBRAL AGENESIS.*

The species of paralysis described in this memoir, takes place in the fœtus or in early infancy, and depends on one of two causes—the first being an imperfect development, without alteration of structure, in certain parts of the brain—the second, an alteration of structure, accompanied by a defective development of the part affected, and of the neighbouring parts. The whole of these have been designated MAL-FORMATIONS of the encephalon, and the unfortunate individuals thus circumstanced, have been termed monsters, or monstrosities.

Formerly it was supposed that the nerves took their origin from the brain and spinal marrow; but modern researches have proved that they arise from the different parts to which they were formerly supposed to be sent, and thence concentrate towards the brain and spinal marrow, for the purpose of keeping up the known relations between the sensorium and system at large. It is clearly ascertained that the nerves are formed before the spinal marrow—and that this last is formed before the brain:—in short, the encephalon, strictly speaking, is the last part of the nervous system which is formed by the hand of nature. It is also a well known law in the animal economy that, in proportion as the parts are early formed, they are free from defect in organization—hence the frequency of malformations in the brain, as compared with the spinal marrow and nerves. Our author thinks, and we agree with him, that the term *atrophy* is an improper term for imperfect development of the brain. He has therefore adopted the word *agenesis*, which is quite unobjectionable in all respects. Dr. C. has pursued the following order in his researches—1mo. Complete cases, that is, where dissection took place; accompanied by remarks on the correspondence between the encephalon and the other parts of the system. 2ndo. Incomplete cases, (unaccompanied by dissection,) with deductions as to the nature and seat of the cerebral alteration. 3tio. Descriptions of the organic and functional altions of the members. 4to. The influence of the malformed brain on the other parts of the system and their functions. 5to. Considerations on the epoch at which this cerebral *agenesis* takes place—its comparative frequency, and the parts of the brain most subject to these malformations. 6to. To determine whether paralysis always takes place in the side opposite to the cause in the brain. 7to, and lastly, researches as to the cause, real or presumed, of this cerebral agenesis.

COMPLETE CASES.

1. *Case of primitive or congenital Agenesis of the Right Hemisphere.*—Mary Masson, aged 59 years, presented the following defective development in the left side of the body. The left arm was much less voluminous than the right, but was nearly of the same length—while the lower left extremity was much shorter, but nearly as thick as the right. All the motions of the left arm were so imperfect, that the member was rendered quite useless. The left lower extremity, from its shortness, caused great lameness, and deformity about the pelvis. The sensibility of the left side, as well as the sight of that eye, was very feeble. The defect of the intellectual faculties was not so striking. She spoke little, and her answers were very laconic. Her temper was mild and unirritable. For a long time this woman had laboured under hypertrophy of the left ventricle of the heart. An acute pneumonia supervened, and she died in hospital under the care of Messrs. Roston and Ferrus.

Dissection. The body was opened in the presence of Messrs. Cazaux and Lalesque, when the following appearances presented themselves. The skull was thick, and the dome over the *right* hemisphere was rather flattened. The meninges and vessels of the encephalon were natural. The convolutions of the *right* hemisphere were less developed than those of the *left* side, which last was of much greater volume than the other. The left lateral ventricle was more spacious than the right. The corpora striata did not materially differ in length, but in thickness they did. The right thalamus nervi optici was much less than the other. There was no appreciable difference in the two sides of the cerebellum, tuber annulare, or medulla oblongata et spinalis. The left side of the heart was hypertrophied, and the right lung hepatized.

We forgot to remark that this woman had an impediment of speech; but how far this impediment was connected with the imperfect development of the left side of the brain, it would be difficult to say. There can be little doubt, however, that the atrophy of the members and the defective sensibility of one side of the body were dependant on the congenital agenesis of the brain.

Case 2. Congenital Agenesis of the Left Hemisphere of the Brain—Paralysis of the Left Side of the Body.—A female, aged 51 years, died in the Salpétrière in the month of August, 1825, of acute pneumonia, who had been affected with congenital paralysis of the right side of the body. The whole of this side, the face, the mamma, the upper and lower extremities, were much less developed than the corresponding parts of the other side. The arm and leg were not only smaller but shorter than their fellows, and the arm was quite contracted. The motility of these members was much more deteriorated than the sensibility, which last, however, was somewhat obtuse. The intellectual faculties were evidently below par.

Dissection. The convolutions on the surface of the *left* hemisphere were much less

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* Researches on Cerebral Agenesis and Congenital Paralysis. By J. B. CAZAUVEILH, Intern of the Civil Hospital of Paris.

prominent than those of the right—and indeed the whole of the *former* hemisphere was much smaller than the other. The right hemisphere was nearly half an inch more in diameter than the left. There was no appreciable difference in the ventricles, corpora striata, or thalami optici. The same might be said of the two lobes of the brain, and of the two sides of the medulla oblongata et spinalis. The nerves of the atrophied members appeared as large as those of the sound members.

Case 3. Mary M——, aged 68 years, who had long gained her livelihood by selling milk in the Salpétrière, had been deprived almost entirely of voluntary movements in the upper and lower extremities of the right side since her earliest infancy. The power of the arm had always been extinct; but its volume was as great as that of the other arm. The right lower extremity was considerably undersized in all respects, as well as shortened. Locomotion was performed by means of a crutch, and that very imperfectly. The woman was seized with acute pneumonia, and soon died after her reception in the infirmary of the Salpétrière.

Dissection. The cranium, membranes, and vessels, presented nothing particular. The anterior lobe of the *left* hemisphere was less developed than the corresponding one of the other side. In the interior of the former was found a cavity capable of containing an almond, and communicating, by means of a small fistula, with the lateral ventricle of that side. This cavity was lined by a red membrane, with bands crossing from side to side. There was no fluid in the cavity. The two lateral ventricles were of equal dimensions; but there was great inequality in the corpora striata and thalami nervorum opt. The *left* corpus striatum was one-fourth smaller than the *right*, and contained very little medullary substance. Nearly the same difference existed between the two thalami ner. opt. All the other parts of the cerebral and spinal system were equally balanced. The muscles of the paralyzed limbs were small and flabby; while the nerves were larger and of a yellower colour than in the sound limbs. The state of the intellectual faculties were not ascertained by the medical attendants; but they were reported to be below par.

Case 4. N——, aged 27 years, died in the Salpétrière on the 7th December, 1825, of chronic gastro-enteritis, on which had supervened acute pneumonia. This woman presented a defective development throughout the whole of the right side of the body. The arm was shrivelled and contracted, and possessed but little motility. The right lower extremity was less than the left, and its motility very imperfect, so that the individual was quite lame. The mouth was habitually drawn to one side, and the pupils of both eyes equally dilated. Sensibility was somewhat defective in the atrophied side. The intellectual faculties were considerably below par. She could not freely express with her tongue the limited range of ideas generated in the mind.

Dissection. The *left* frontal region of the head was much less salient than the right—while the posterior or sincipital region of the same side was in an opposite condition. The meninges were infiltrated. The whole of the anterior lobe of the *left* hemisphere was much flattened, and the substance of this lobe softened, in the centre, and in a well defined space. The ventricles were filled with serum, but there was no other appreciable inequality of development or structure in the two sides of the brain or spinal marrow.

The above cases are followed by a statement of several others in which the patients, paralytic from birth, are still living, and consequently the correspondence between the state of the brain and the atrophied members unascertained by dissection.

Archives Generales.

ON THE PASSAGE OF SUBSTANCES INTO THE URINE.

[*By Dr. Whoeler. Zeitschrift fur Physiologie von Tiedman.*]

This indefatigable Physician has made a great number of experiments, with the view of determining what substances pass from the stomach or other parts of man and animals into the urinary secretion—and what we are to infer from this phenomenon? The faculty of medicine of Heidelberg, decreed the prize to Dr. Whoeler, one of the most distinguished students of that school. We are sorry that our limits prevent us from giving the details of these experiments—we can only afford space for the results. The greater number of these experiments were made on dogs, to which animals the various substances were given in a little paste when their stomachs were empty. They were carefully watched after the ingestion of the experimental matters, and afterwards killed by prussic acid, as the most sudden and the least cruel mode of destroying life. Dr. W. rejected the plan of tying the œsophagus to prevent vomiting, in these animals; justly considering that such an operation must make an impression on the nervous system of the animal that would be very likely to derange the various secretory and excretory functions, and thus vitiate the conclusions. This circumstance has, unfortunately, been too much overlooked by experimental physiologists, and the deception, we fear, has been great in consequence. As it was found to be impossible to introduce a catheter into the bladders of dogs, it was a fortunate thing for the experimenter that he met with a dog who could be made, at any time, to evacuate the bladder by means of threats. This animal served for a great number of experiments.

I. Physiological Deductions.

It results from the numerous experiments, detailed in the Essay, respecting the sub-

stances which pass into the urine, that the following deductions are legitimate:—

A. Iron, lead, alcohol, sulphuric ether, camphor, animal oil of Dippæ, musk, and the colouring matter of cochineal, twinsole, vegetable green, and alkanet root, do not pass into the urine. Neither is the quantity of carbonic acid in the urine augmented by the ingurgitation of liquids containing much of that acid.

B. We find in the urine, but in a decomposed state, the following substances:—hydro-perferro-cyanate of potass (transformed into hydro-protoferro-cyanate)—the combinations of potassa and soda with the tartaric, malic and acetic acids (in the form of alkaline carbonates)—and the hydro-sulphate of potass, (generally in the form of sulphate of potass.)

C. The substances which form new combinations with certain matters of the animal body, and which are secreted in this state by the kidneys, are:—sulphur, which passes in the urine, in the state of sulphuric acid, and hydro-sulphuric acid—iodine, evacuated in the form of hydriodate—the oxalic, tartaric, gallic, succinic, and benzoic acids, which are found in the urine combined with an alkali.

D. The substances which pass into the urine unchanged are as follow:—the carbonate, chlorate, nitrate, and the hydro-chlorate of potass (the latter, however, more frequently decomposed,) hydro-protoferro cyanate of potass, subcarbonate of soda, hydrochlorate of barytes, silicate of potass, tartrate of nickel and of potass;—many of the colouring principles, as of indigo solved in sulphuric acid, of gamboge, rhubarb, logwood, beetroot, black cherries, &c.—many of the odorous principles, (partly modified in odour,) as oil of turpentine, juniper berries, valerian, assafœtida, game, castor, saffron, opium, &c. —the narcotic principle of agaricus muscarius (of Kamschatka)—and, in sickness, oil.

Notes ad A. The causes which prevent some substances (*A*) from passing into the urine, may probably be the following:—1. Certain matters are so changed by digestion and chylification, as to be no longer appreciable in the urine. This may easily be conceived of many of the colouring and odoriferous principles. 2. Other substances, as being more congenial to the animal organism, may be completely assimilated, and entirely employed in nutrition. 3. Others, again, may probably be expelled from the system by other channels than the kidneys, as, for instance, camphor and other odorant principles, which may escape by perspiration and pulmonary exhalation. 4. It is probable that some substances, when arrived in the intestinal canal, change into an insoluble state, and become incapable of absorption—or they may so act, by virtue of their astringent qualities, on the mouths of the absorbent vessels, as to indispose these vessels to take them up. This is probably the case with tannin, and the salts of lead, iron, and other metals.

Ad B. The circumstance of some substances passing into the urine in a decomposed state, may be attributed to two causes diametrically opposite. Thus the transformation of hydro-perferro-cyanate of potass into hydro-protoferro-cyanate, may depend on a deoxidation by some animal substance—whilst, on the other hand, the passage of hydro-sulphate of potass into the state of simple sulphate, may be owing to oxigination in the act of respiration.

Ad D. In respect to the fact of many substances passing into the urine little or nowise changed, it may be observed that most of these substances are of a diuretic nature, and consequently are *excitants* to the kidneys—hence our author thinks he may safely conconclude, that whatever excites the kidneys is secreted there with the urine. It is certain, however, that many things prove diuretic without being secreted in the urine. Affections of the mind, venesection, &c. have frequently the effect of exciting the action of the kidneys. Our author comes to the conclusion, (which indeed is the most ancient doctrine,) that all the proximate principles of the urine pre-exist in the blood. This is the conclusion, also, to which Messrs. Prevost and Damas came, as the result of their experiments.

II. Therapeutic Deductions.

The strong disposition possessed by the vegetable alkaline salts, to be converted into carbonates, in the animal economy, and to pass off in this form by the kidneys, naturally leads to the conclusion that these salts must prove useful in the internal treatment of uric acid formations and depositions in the kidneys and bladder. The alkaline carbonates have been found by experience useful; and are to be given but not too long, as they weaken the digestive powers. For these we may often substitute with advantage the supertartrate of potass, the sulphate of potass and of soda, the acetate and citrate of potass, and those fruits which contain vegetable alkaline salts, especially cherries, strawberries, &c. These last are found to render the urine alkaline, and may be taken with less disturbance of the digestive organs than the alkaline carbonates.

Acting on this principle, Professor Chelius prescribed cherries to a man who was passing considerable quantities of gravel in the form of uric acid. The disorder disappeared. When the cherry season was over, he took lemonade and cream of tartar with equal advantage. The author has found the supertartrate of potass extremely useful in the same disease.—*Ibid.*

PERMANENT EVIDENCE OF SUCCESSFUL VACCINATION.

Under this head, Dr. George Gregory has published a paper in the May No. of the Medical and Physical, in which he modestly

disclaims all title to much novelty—and only hopes to be useful, by refreshing the memory on certain minute points connected with vaccination. We shall give a very brief abstract of these minute points.

1. A proper vaccine scar should be distinctly defined, even after a lapse of 20 years; in order to which, it is nearly indispensable that the scab should remain on—or, at least, that cicatrisation should not be completed until the 21st day. In some cases, the cicatrix is formed by the 14th or 15th day—and then "vaccination is imperfect."

2. The true and perfect vaccine scar is circular, or nearly so. When common inflammation supervenes early, the scar is irregular in form, and the system is still open to the small-pox, more or less modified. The diameter of the circular scar is not material. The largest, however, which he considers compatible with safety, will be that of a sixpence, or small wafer.

3. The vaccine scar should be indented and radiated; though he does not insist on these appearances as a *sine qua non* in the proofs of perfect vaccination.

The sources of imperfection in the process of vaccination are chiefly the following:—effete virus; hence the inoculation should always be with fresh matter, and not by points, if possible:—pre-occupation of the system by some other important process, as dentition, viceral inflammation, fever, hooping-cough, porrigo favosa, or herpes:—and, lastly, a too advanced period of life at the time the process of vaccination is instituted.

For several collateral remarks and observations, all of a practical nature, and all indicative of the sound judgment and accurate discrimination by which the author is characterized, we must refer to the original paper in our cotemporary for May last.

In the same journal there are two papers connected with the subject of vaccination—one by Mr. Dalton, an eminent surgeon of Bury St. Edmonds, who describes an epidemic variola, against which vaccination made a bold and successful stand—the other by Dr. Morton, Physician to the Metropolitan Infirmary for Children, in which it is shown that, in his own experience at least, the proportion of variolous attacks after vaccination does not exceed four per cent. at the most. In the cases of failure, the disease was generally very mild.—*Ibid.*

OBLITERATION OF THE AORTA.—SCIRRHOUS DISPOSITION.

The Medical Society of Tours has published some memoirs, in one of which is an account of a case, the particulars of which are deserving of record. A woman, 36 years of age, of good constitution, and who had enjoyed good health till the age of 30, then perceived, in the anterior and lower part of the arm, a small, moveable, but not painful tumour, which gradually increased to the size of an egg, when it became very painful. It was extirpated by M. Dupuytren in 1821; but returning again, the operation was repeated by Dubois. The healing of the wound required the *arsenical paste*. In July, 1824, the woman felt shooting pains a little above the old cicatrix, and soon after had some slight fits of coughing, attended with constriction in the chest, but no expectoration. Catamenia continued. In October, the cough became violent, the breathing short, with paroxysms of suffocation, diminution of appetite, loss of sleep. Towards the latter end of November, all these symptoms acquired much intensity. On the 9th of December she was removed to the Hospital of St. Come. Her appearance differed little from that of health. She had little thirst, no fever, respiration slow, short, and difficult. It was pronounced by M. Bougon that there was cancer of the lungs. The suffocating fits and dry cough increased—pulse calm—abdomen soft and hot—tender. On the 11th January, 1825, the lower extremities appeared to be paralyzed, and the patient died, though still somewhat corpulent.

Dissection. A scirrhous swelling above the original scar—similar tubercles in the thyroid gland, and between the muscular fibres of the right thigh—scirrhous depositions in the substance of the heart—between the ribs and pleura—in all points of the lungs, some as large as a small hen's egg. Some of these tumours had the appearance of scirrhous, some of brain. Stony, calcareous masses occupied the mesentery—others of a medullary nature, the omentum. Scirrhous tumours were found beneath the mucous membrane of the stomach, duodenum, small intestines, gall-bladder; likewise in the kidneys, pancreas, and liver, which was gorged with them. In the interior of the cava inferior, a cylinder of a greenish colour and fibrous texture, was found. Below the third lumbar vertebra, the aorta was filled with a cylinder of a yellowish grey colour, in which was observed a small quantity of puriform matter. In the common and iliac arteries was a substance having the character of ancient coagulum. The texture of the vessels themselves was not altered. All the arteries above the obstruction, were free, and of greater size than natural. There were some tubercles found in the head.

M. Velpeau has adduced the above case as one eminently calculated to show, 1st, The alteration of the fluids in disease.—2dly, The possibility of obliterating the aorta, without producing death of the lower limbs.—3rdly, The general disposition, known by the name of the "cancerous diathesis."—4thly, The origin of cancer from other than inflammatory causes.—*Mr. Churchill, Med. and Phys. Jour.*

We might here ask the question, had the application of arsenical paste to the wound, any share in the development of this tubercular disposition (for we think the term *cancer* is hardly justified) throughout this unfortunate patient.—*Ibid.*

REMARKABLE TENDENCY TO PHLEGMASIÆ.

M. Lomel. Military Hospital, Strasburg.

This case is recorded in M. Broussais' "*Annales de la Medecine Physiologique*," a journal which we have only recently procured in exchange, but which will hereafter be more known to our readers. There is a passage in the preliminary discourse to the first number for this year, which we shall extract, as not a little applicable to our own times and country. M. Broussais is speaking of a new French quarterly journal, on a plan nearly similar to our own, and which is to be conducted without any party-spirit, but solely for the purpose of collecting the rays of knowledge from all quarters, foreign and domestic—and then diffusing them in a concentrated form, through the various ramifications of medical society.

"Nous ne pouvons qu'applaudir à des vues aussi sages, aussi philanthropiques. Il était temps que les gens de bien se réunissent pour neutraliser les efforts de *ces coteries* où l'on excite *les passions* contre les hommes de la science qui n'en font pas partie."

We sincerely hope, indeed we are thoroughly convinced that the tide of dissention and party-spirit which has, of late, unhappily overflowed, in this country, is now rapidly ebbing—an event that must give great satisfaction to all those who wish well to medical science, and desire the respectability of its professors.

Case. A sub-officer of artillery, aged 23 years, of sanguineous temperament, entered the Military Hospital of Strasburg, on the 5th of December, complaining of acute pain, of four days' duration, in the lower part of the left side of the chest, verging round towards the epigastrium. The patient affirmed that he felt this pain first in the spinal column, and that it afterwards extended forward. Deep inspiration caused much inconvenience, as well as coughing, which last, however, rarely occurred. The left ribs were nearly motionless in the act of breathing—percussion there caused pain, but elicited a clear sound. There was but little increase of heat—the appetite was gone—the tongue white in the middle, and rather red at the tip and sides—bad taste in the mouth, which was dry and clammy—thirst—pulse frequent and hard. He slept pretty well, and the bowels were regular. Twenty leeches were applied to the affected side—he was put on the lowest diet—and diluent drinks were prescribed.

6th. The leeches bled copiously, and the pain was much diminished, but the skin was dry and hot—the pulse quick, but less hard—thirst, confined bowels. *Emollient lavement.* 7th. Same state—same prescription. 8th. The bowels opened; but the symptoms nearly the same. Fifteen leeches to the anus. 9th. Passed a good night—pain of side gone—can breathe freely. Pulse is still quick and hard.

10th. Acute pain in the right thigh, where a phlegmonous swelling appears. Thirty leeches to the thigh. 11th. The tumour diminished. Some febrile symptoms still remain. 12th. Another inflammatory swelling has appeared on one of the arms. Twenty leeches to this part. 13th. The swelling on the arm is diminished; but a similar phlegmon has appeared on the corresponding knee, to which 20 leeches have been applied. 15th. Inflammation has occurred in the ankle of the same extremity. Ten leeches to this new phlogosis. 18th. Some pain of the head is complained of, the other local inflammations having much subsided. 20th. To the headach were added swelling of the left side of the face, and erysipelas. The constitutional disturbance is now considerable. 21st. The swelling of the face is so great that the patient can scarcely open his eyes. A pustular eruption is appearing over the body, as large as variola. The febrile symptoms aggravated. 22d. The patient is delirious. Twelve leeches were applied to the temples; but the appearance of the erysipelas and the constitutional symptoms leave little hope of life. He died next day.

Dissection. Under the seat of erysipelas in the face, there was a depôt of purulent matter, and denudation of some of the bones. There was purulent matter, of no good quality, found in all the other seats of inflammation, above alluded to. There were six ounces of purulent matter found in one of the knee joints, the synovial membrane being much inflamed. The vessels of the pia mater were highly injected, and some portions of the brain were positively inflamed—the cerebral substance being generally firmer than natural. The vertebral canal presented a large quantity of bloody fluid infiltrated into the cellular tissue, but the medulla spinalis itself was firmer than natural.

In the chest there was very little variation from a state of health, except some pleural adhesion. In the stomach several zones of vascularity were observed in the mucous membrane, together with thickening and softening of that tissue. The internal surface of the small intestines was red throughout; some patches of inflammation in the large intestines. There was no other disease in the abdomen.—*Annales de la Medecine, &c.*

The above case is certainly remarkable for the powerful tendency to inflammatory action in different tissues, and consequently presenting different trains of phenomena. M. Broussais justly remarks, that such inflammatory tendencies can only be successfully treated by early and energetic depletion. Had such measures been employed in the above case, it is probable that the inflammatory irritation would not have spread from one tissue to another, with ultimate destruction of life.—*Ibid.*

COLICA PICTONUM.*

It appears that, in and about Orleans, there are great numbers of people employed in white-lead manufactures, and consequently the author of the volume under review, as chief physician of the Hôtel Dieu of that city, has had great experience in this painful and sometimes dangerous disease. Between the years 1820 and 1826, he has treated 147 cases of colica pictonum in the above hospital, without the loss of a single patient. The statement is perfectly authentic, as he has given the name of every individual, with the date of his entry and discharge, so that any misrepresentation would be immediately detected by the medical officers of the hospital.

The following are the symptoms which this disease has generally presented to Dr. Ranque:—At the beginning, distaste for food—nausea—slight salivation—disagreeable dreams:—soon afterwards, there is a vomiting of the alimentary matters mixed with bile of various colours, yellow, green, black, &c. together with some mucosities. Then we have severe pains about the umbilicus, in the hypochondria, in the epigastrium, loins, and iliac fossa, returning at intervals—these intervals being long at the beginning, but gradually shortened as the disease advances. The pains are always worse at night than in the day. They are generally accompanied by headach, pains in the knees, calves of the legs, ankles, soles of the feet, and insides of the thighs. These pains frequently alternate with those of the abdomen. They seldom attack the wrists, elbows, or shoulders. The abdomen is generally insensible to pressure, without any change in its natural temperature. There is no increased action of the arteries in any part of the body—no redness or dryness of the tongue—no thirst—no pyrexia—pulse generally below 60 in the minute. The constipation is most obstinate, and when stools are procured, the fæces are in little balls like goat's dung. The urine is usually clear and abundant. The expression of the eyes and countenance is altered, and indicative of suffering and inquietude—the *morale* of the individual is in a state of complete prostration. In a few cases, comparatively speaking, there were symptoms of inflammation in the abdomen. In a still smaller proportion of cases, the disease assumed a terrific form, being complicated with cerebro-spinal affection, the marks of severe organic changes being found in the brain, spine, and organs of sense.

The author does not propose his mode of treatment for those cases in which there are symptoms of inflammation in the abdomen. This inflammation he considers as quite a supervention, and in no way essentially connected with true colica pictonum, which is an affection of the nervous system quite independent of phlogosis. When abdominal inflammatory symptoms appear, the disease is to be treated by leechings alone, and the treatment of the colica pictonum is to be, for the time, suspended.

In the uncomplicated cases of colica pictonum, characterized by the symptoms already detailed, our author has invariably succeeded by the *methodus medendi* now to be described. This method consists in a plaster over the abdomen—another over the loins—glysters—and a certain potion internally. The plaster for the abdomen is composed of an ounce and a half of emplastrum galbani compos:—the same of emplastrum lyttæ—half an ounce of "thereaque"—one drachm of camphor, and half a drachm of sulphur. These are to be incorporated, secundum artem, and spread on a large piece of leather which may cover the whole front of the abdomen. Previously to its application, however, the plaster is to be warmed, and a drachm and a half of tartar emetic, mixed with some camphor and sulphur, is to be spread over its surface. The plaster over the loins is to be made in the same way as that for the abdomen, with the exception of the tartar emetic, which is to be omitted. Those parts which are in pain, in any other part of the body, are to be rubbed with a liniment, into the composition of which, the extract of belladonna enters pretty freely. A mixture is also taken internally, each dose of which contains 20 drops of the ethereal tincture of belladonna, (one ounce of the powdered leaves infused for three days in three ounces of sulphuric ether,) drinking plentifully of barley water, with or without gum arabic. The patient is to take no solid food whatever, and indeed as little of any kind of nourishment as possible. The lavement made use of by Dr. Ranque is composed of decoction of linseed—four ounces of oil—and twenty drops of the tincture of belladonna above described. The lavement and the potion are to be taken every day. On the third day, the abdominal plaster is removed—the lumbar one is allowed to remain on. If, however, the colicky pains should not have ceased by the third day, which they generally do, the abdominal plaster is to continue on some time longer. In such cases there will be a plentiful crop of antimonial pustules, and much cutaneous irritation, for which fomentations and poultices must be employed.

The cure required from two to twenty-five days. One hundred and twenty-nine were cured between the second and twelfth day—the remainder between the thirteenth and twenty-fifth day. In almost every case, the vomitings ceased on the second day of the treatment. By the fifth day, the abdominal pains ceased in the great majority of cases. On the sixth day the pains in the limbs ceased, and the constipation was overcome soon afterwards, which was the prelude to restoration of health.

The success which Dr. Ranque obtained by this method, in colica pictonum, unac-

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* Memoire sur les Empoisonnemens par Emanations Saturnines. Par M. Ranque, Medecin en Chef de l'Hôtel Dieu d'Orleans. 8vo. 1827.

companied by any fever or inflammation, induced him to extend it to some other affections, viz. to chronic vomitings, (of apyrectic character)—to tetanus, (not traumatic)—to epilepsy, considered dependant on abdominal derangement—to puerperal mania, &c. and in various cases he has been fortunate.

From what appears in this volume, it is evident that the author, although he lost none out of the 147 cases recorded in the tables, lost other cases which are not detailed. He says, indeed, that these were of a different character—that they were complications—and that the patients died of the supervening affections. But still these cases ought, in all fairness, to have been given. Assertion is no proof in medical matters. We agree with the author, however, in believing that colica pictonum is originally and commonly an affection of the nervous apparatus of the alimentary canal; and that it affects other parts of the system consecutively. We believe that the disease may run its course, without materially or evidently affecting the vascular system. But there are cases in which both systems are affected, and then a modification of treatment is necessary. It is evident that the principle of Dr. Ranque's treatment is founded on counter-irritation externally, and sedatives internally—the laxative injections being no more than is indicated in all torpid states of the bowels. The counter-irritation, so powerfully effected by the extensive application of the antimony, must doubtless make a great and salutary impression on the disease, and it is worth the attention of practitioners, when they meet with this painful malady.

We shall here introduce a case and some observations by Dr. Pascal on the Colick of Madrid, a disease nearly allied to, if not identical with, that under consideration.

Case. H. Henry, a soldier of the first regiment of infantry, aged 22 years, of good constitution and bilio-sanguine temperament, entered the Military Hospital of Madrid on the 9th May, 1824, for an intermittent fever, which disease persisted till the beginning of July. At this time, he was seized, without any apparent cause, with obscure deep-seated pain in the abdomen, obstinate constipation, and dysentery, without either dryness or redness of the tongue. The abdominal pains soon became excessive, and to these were added pains along the spine, and under the sternum, as also along the arms. From this time the patient had no rest—the insomnium was constant—eyes haggard—the muscular movements irregular—the temper irritable—great prostration of strength. Paralysis of the upper and lower extremities now appeared—and the bowels, which hitherto had remained obstinately confined, became soluble. He died on the 17th July. Diluents, antiphlogistics, and warm baths, were the only means employed.

On dissection, the membranes of the brain were found highly injected; but the cerebrum and cerebellum were in their natural condition. There was some serous fluid in the lateral ventricles—the spinal marrow was highly injected, and firmer than natural—the lungs were gorged with blood, but showed no trace of inflammation. The tissues of the heart were much injected, and the internal surfaces of its chambers were red. The mucous membrane of the stomach was pale—the intestines natural. The ganglia of the abdomen were almost all red, and most of them apparently enlarged.—*Mem. de Med. et Chirurg. Milit. Vol.* xix. 1826.

In the same volume Dr. Pascal relates several other cases of the Madrid colick, in which the ganglionic system presented similar appearances. Hence he concludes that the traces of inflammation which are found in these subjects, are consecutive of the origiginal affection of the ganglionic nerves.

In a memoir published in *the Journal Complementaire*, by Dr. Marquand, the same view of the Madrid colick is taken. This gentleman had the charge of the Military Hospital of St. Jacques de Comportille, in which institution there were never fewer than 40 or 50 patients affected with this disease. The following is the course which the malady generally pursued, according to his observation: slight and transient pains were first complained of, in the line of the colon, especially of its transverse arch, without any material disturbance of the functions. Afterwards moroseness of temper was conspicuous—inappetence—difficult defecation, but not decided constipation—much flatulence and discharge of wind. This state lasted two or three days, at the expiration of which all inclination to stool ceased, and the flatulence disappeared. From this period, gastric symptoms were developed. There was pain in the epigastrium—palid and dejected countenance—small, slow, and contracted pulse—scanty urine—dry but not hot skin. The patient was inclined to sit with his arms folded on, and pretty forcibly compressing the abdomen, the trunk of the body bent forwards. To these symptoms succeeded hiccup and vomiting of glairy and bilious matters. No sleep. The belly now became flattened, and pain was complained of in the right hypochondrium, and sometimes in the umbilical region, but without any diminution of the epigastric pain. The eye became yellow, and the yellowness spread to all other parts of the body. These symptoms gradually increased, and led to the tomb:—sometimes with mere marasmus—sometimes with paralysis. In the course of the disease there were occasional remissions which promised convalescence, but these were deceptive.

The treatment which proved most successful in this terrible disease was a combination of opiates and purgatives.—*Ibid.*

ERGOT OF RYE.

We learn from a long paper on this article by Dr. Aug. Goupil, in the third number of the *Journal des Progrès des Sciences et Insti-*

tutions Médicales, &c. the following useful or curious facts relating to it.

Its poisonous qualities were recorded so long back as the year 1096, at which period many persons seem (according to the *Abrégé Chronologique* of Mezerai, upon the authority of *Sigebert de Gremblour,*) to have suffered a sort of dry gangrene from eating unwholesome bread. A similar event occurred in Germany in 1596, on which occasion the effect seems to have been traced to the right cause.

As a medicine it was known to the quacks long before its adoption by the regular faculty; and its powers of action on the uterine system were among the secrets possessed by certain midwives, at a period when the duties of the obstetric department were confined as well as confided to them.

All our readers know from what quarter its existing celebrity took its rise: and we shall not repeat the history, with which they are sufficiently familiar. In France its efficacy was put to the proof by Chaussier and others, at the Maternité—where it failed to give satisfaction—in all probability because the quality of the article employed was bad; but many other practitioners have tried it, and concurred in giving it their fullest approbation.

The *ergot*, or spur which appears upon the rye, is a morbid excrescence—not peculiar to this grain; others, such as barley, oats, and even wheat, are affected with it, though the rye more frequently than any. Of the nature of this parasitical affection we have given some details on a former occasion, and cannot possibly find space for an enumeration of distinctions which M. Goupil has traced through a variety of authors, and to a variety of sources, too numerous for us to take account of. It is laid down, however, as an essential point for attention, that when the *secale cornutum* is to be employed for medical purposes, it should be selected from the growth of the current year; it should be preserved also in bottles hermetically sealed; and never be bruised or powdered till the moment that it is wanted.

We need not refer to the instructions conveyed in this *most elaborate* paper as to the formulæ or the doses convenient for the administration of this medicine. Its action is rapid; but it is *not poisonous.* This assertion, however, demands some explanation. That *spurred rye* made into bread will cause convulsions and gangrene, is undeniable; but it does not follow that it will have these effects when given medicinally. When eaten in the former shape, the quantity swallowed, and the reiteration of the ingestion during many days, will explain all this. It has no injurious effect when administered during parturition, upon either mother or child. It is customary in some parts of southern France, to give it liberally to cows when about to calve, and to other female animals in similar circumstances, and it never hurts either parent or offspring.

M. Goupil proceeds to say as follows: "On various occasions, before venturing to prescribe for my patient a drachm and a half of the *secale*, I have myself, at distant intervals, swallowed two drachms, and even to the amount of two and a half; when all the evils I have experienced have amounted to sickness, a propensity to vomit, pains in the bowels and headach—which I have been inclined to attribute to excessive irritability of the gastro-intestinal mucous membrane."

The innocence of the remedy is looked upon as indubitable. Then comes the question, however, whether practitioners may place equal reliance on its efficacy? If, in a few instances, (and they are said to be but a few,) the medicine has failed, the cause of the failure is supposed to have consisted either in the inefficacy of the doses, or the general participation in occasional *fallibility*, which this article of therapeutics must be supposed to possess in common with all others. In addition to this, it is very fairly argued, that its effects have not been yet sufficiently studied, while we are by no means perfectly acquainted with the circumstances that may hinder its action. In this failure it is countenanced by the analogy of other remedies of an established *specific* virtue, such as bark and mercury. Other objections have been urged against it, which this candid and intelligent author in a fair and warrantable manner, by adducing the concurrent testimony of many eminent men—who are well able to discriminate between spontaneous efforts of nature, and the sequence of medical interposition. We are glad to see, among the list, that the name and contributions of our excellent friend and correspondent, Dr. Henry Davies, have not been overlooked, or unappreciated.

To give an epitome of the cases appended to the didactic part of this paper is totally out of our power. But we leave it with our warm commendations, as a valuable contribution to clinical obstetrics.—*Med. Repos.*

HYDROPHOBIA.

The following abstract of a very interesting paper, in the 2d volume of the *Journal des Progrès du Sciences et Institutions Médicales*, is taken from Hufeland and Osann's Journal.

Dr. Urban is convinced, from numerous observations, that the rabid virus, whatever may be its effects on the general system, may remain in a wound unabsorbed, even for years, and all the time preserve its virulent powers. Certain states of the system, however, are necessary to the development of these powers: most who are bitten by rabid animals escape with impunity; and even among those who suffer, the effects of the bite sometimes (though rarely, it must be confessed,) do not appear until years afterwards.

It is unnecessary to describe the course of the disease, of which there have been lately too many opportunities of verification. One of the most distressing, and probably one of the most curious circumstances connected

with its history, is its increasing frequency. There can be little doubt of this fact. We recollect listening to an account of the death of a lady, from the consequences of a bite or scratch inflicted by a lap-dog, when given by our venerable teachers (who had seen the case) as to a tale of wonder and astonishment —blessing ourselves that the thing was past, and hardly imagining that hydrophobia was a disease to which we should ever have occasion, or even opportunity, to direct our attention.

In all the cases observed by Urban, one or more pustules, about the size of a grain of mustard, and sometimes that of a pea, containing reddish-blue lymph, formed around the bite; and this lymph was found to possess all the properties of the rabid virus. He is of opinion, that this virus, displaying itself in or near the part bitten, is by no means absorbed into the system; and he is firmly persuaded, that the part may inflame and become covered with pustules solely through the agency of fear, inattention to proper regimen, and strong emotions, either of anger or sorrow. These pustules (or *phlyctenæ*, as they are technically called,) are, in fact, depôts, or central points of the virus. M. U. has never observed them under the tongue—probably because he prevented their formation there by his plan of treatment—which, being the result of observation in no less than forty cases, deserves to be promulgated. It comes before us accompanied by very strong commendation; and we shall give it as nearly as possible in the words which are now under our eye, in the work above alluded to.

"I. Let the part bitten be washed with warm milk, as highly acidulated as possible. That the rabid virus is possessed of alkaline properties, is proved by its turning vegetable blues green—a remark made by Dr. Urban as to the virus of the lower animals.

"II. Plunge the limb affected into hot salt water; or if this be not practicable, let it be well covered with sponges, or with linen, steeped in a fluid of this nature, both in order to wash the wound, and to soften the skin, so as to facilitate the next application.

"III. We are now to apply cupping-glasses to every practicable spot about the wound, and these are to be continued for two days: the glasses are to be warm, and must be renewed until blood and serous exudations appear upon the skin. Where cupping-glasses cannot be applied, the wound must be dilated by cutting instruments in all directions, with an especial view to the exposure of the deep seated parts. Every description of pressure is then to be made upon the wound until it becomes perfectly dry.

"IV. A thick compress, steeped in some saline solution, is then to be applied over the wound, and maintained *in situ* by a bandage. Of course this will be repeated wherever there may happen to be the slightest indication of injury, even the mere impression of a tooth without abrasion of the skin. Common salt, from its greater tendency to humidity, is preferable—an ounce, or an ounce and a half will be dissolved in a pint of milk or of water—adding a few leaves either of cicuta or of walnut, so that the confidence of the patient (upon which great stress seems to be laid) may not be shaken by the simplicity of the remedies: the choice of the article used for this is of little consequence—the important matter being to keep the wound continually wet.

"V. For this purpose, care must be taken not only to renew and to steep the compress twice a day, but the patient should be exhorted to pour salt water upon it every two hours. Dr. U. conceives that the reunion (healing) of wounds treated in this manner, may be ventured upon at the end of a fortnight or three weeks.

"VI. But it will be of the greatest consequence to insist upon it that the patient shall pay particular attention to the bitten parts, and inform the physician the moment they shall become affected with itching, or pain, so that immediate attempts may be made to arrest the progress of the disorder. Dr. U. never omits, when the redness and pain are increasing, to look attentively for a tumour, surrounded by a red circle, and exhibiting vesicles. This phenomenon, which often takes place between the seventh and eleventh day of the preservative treatment, requires no other attention than that already described, excepting that the pustules (if any) should be carefully opened and washed."

M. Urban attaches so much importance to that part of the patient's conduct which relates to watching the wounds, that he exacts from him a solemn written promise that he will do so. This gentleman also declares that every unknown dog which bites as he runs along, should be considered rabid. The old method of firmly tying up the limb bitten, is more than questionable as to its effect; and it is asked whether by the powerful constriction thus made upon the vessels, the absorption of the virus may not be facilitated?—*Lond. Med. Repository.*

PULMONARY APOPLEXY.

Dr. Bouillaud.

The above term sounds rather oddly to English ears; but it is by no means an improper term, and the authority of Laennec is a sufficient passport for its introduction into the pathological nomenclature of the present day. Laennec was the first who traced, with any degree of minuteness, the nature of pulmonary apoplexy, or hæmorrhage; but many important additions have since been made to our knowledge of this serious malady. It is with the view of filling up lacunæ, that the distinguished Physician of the Cochin Hospital comes forward on the present occasion.

Case 1. E. T. Gerault, aged 58 years, Professor of Belles-Lettres, of sanguineous and strong constitution, with large chest, and otherwise well-formed, was admitted into the

Cochin Hospital on the 22d September, 1822. He stated that he had been ill for six years, after a voyage to a tropical climate. Since that voyage, he had been subject, to what he called attacks of *asthma*, especially in cold and damp weather. The intervals were of various duration, but they had become shorter, and the attacks more severe, since a suppression of the hæmorrhoidal discharge. M. Gerault had been at the hospital two years previously, for the same complaint, and was considered to be labouring under aneurism of the heart. In 1821, he had spat up some blood for a fortnight. Some time subsequently, after a long walk, he became affected with dyspnœa to a great degree, so that he could scarcely move without a sense of suffocation, constriction in the centre of the thorax, and decubitus difficilis on the left side, some cough, demi-extinction of voice, regular strong pulse slightly accelerated, tongue white and moist, trifling diarrhœa.

At 11 o'clock at night, of the first day in the hospital, Dr. B. was summoned, and found the patient in the following condition:—sitting up in bed, breathing with difficulty—face pale—eyes haggard and prominent—cold perspiration over face and body—continually rocking from side to side—great wheezing in the bronchia—all the respiratory muscles in strong action. The pulsation of the heart could not be heard or felt—the *former*, probably from the great wheezing, the *latter*, from the violent agitation of the chest in respiration. The pulse was precipitate and irregular, the voice almost extinct, the patient earnestly supplicating for relief. M. B. bled him on the spot. The blood was black and thick. It issued with difficulty, at first, but afterwards sprang out with force. Sixteen ounces were abstracted. This measure, together with a sinapism to the back, and some antispasmodic medicine, produced a degree of relief, and the patient was able to lie down, with the head well elevated. 12*th September.* The patient felt himself much better; but still his condition appeared very alarming to his physician. The mucous wheeze (râle muqueux) continued—the sputa were viscid, and tinged with blood—breathing very short—face of a violet colour—lips livid—pulsation of the heart imperceptible by the hand—audible faintly in the front of the sternum—pulse soft and embarrassed. Cupped and scarified on the chest—colchicum and expectorants. 13*th.* The melioration was considerable this morning; but the face was red and partially livid. 14*th* to the 30*th.* The respiration is sometimes free, sometimes impeded—countenance pale—hands blue. During the first eight days of October, the patient spat up a large quantity of black blood—the legs swelled. On the 13*th October*, there was another abundant hæmoptysis, and the 14*th*, he died.

Dissection. The right pleura costalis and p. pulmonalis were adherent—in the left pleura, there was a pint of reddish fluid. Both lungs presented the cadaveric engorgement at their inferior parts (which happened to be the *anterior*, as the body was turned on the face soon after death)—the posterior parts of the lungs were crepitant. A considerable proportion of lung, however, was found in a state very different from that of mere cadaveric congestion—namely, with a quantity of blood extravasated in the air-cells, and combined, as it were, with the pulmonary structure itself, forming a substance resembling spleen. There was, therefore, but a small proportion of lung which was permeable to the air. The bronchia were gorged with sanguinolent mucosities, and the mucous membrane was of a violet colour. In the pericardium, there were a few ounces of fluid, of a sanguinolent and flocculent character. The heart, which was gorged with blood, was double its natural size, and, together with the effusion, encroached greatly on the lung of that side. The auricles were dilated in their cavities, and thickened in their parietes. The walls of the ventricles, especially the left, were in a state of hypertrophy. There were several other alterations of structure about the heart and arch of the aorta, which we need not specify.

In the abdomen, the liver was found gorged with blood, and, in fact, in nearly the same state as the lungs. The mucous membrane of the stomach was injected, and, in some places, inflamed.

The other case is not materially different from the one we have detailed, and may be passed over. It is this state of pulmonary engorgement, or apoplexy, which generally gives rise to hæmoptysis, the latter not resulting, ordinarily, from the rupture of any large vessel. In ulcerations, however, of the lungs, as in ulcerations of the intestines, the blood may and does come from the mouths of open vessels, and not by a species of exhalation.

The auscultic characters of pulmonary apoplexy, as laid down by Laennec, are the absence of respiratory sound in the part, and the râle muqueux. But it is not very easy always to distinguish this engorgement from common hepatization, and other morbid states, in which the cells of the lungs are not permeable by the air.—*Archives Generales.*

Treatment of Acute Rheumatism by Tight Bandaging.—[*Archives Gén. de Médecine, Juin*, 1827.]

In the number of this Journal for October and January last, a short account was given of a proposal made by M. Velpeau of Paris, to treat the several varieties of diffuse subcutaneous inflammation by graduated pressure, applied by means of the roller bandage. The same plan has been lately tried with great success by Dr. Varlez, surgeon-in-chief of the military hospital of Brussels, in the treatment of acute rheumatism of the joints. He has related several cases in which the bandage was applied in the acutest form and stage of the disease, when the redness and swelling were great, the throbbing pain

violent, and the general fever high, and in which the treatment was crowned with speedy and complete success. In almost every instance the application of the bandage is followed at first, and for two or three hours, with increase of the pain, so that the patient can with difficulty be persuaded to persevere; but soon afterwards the pain begins to abate, and the abatement then advances with rapidity. Dr. Varlez generally moistened the bandages with an emollient decoction, which, besides having the ordinary effect of emollients, were useful by increasing the pressure.—*Edinburgh Med. and Sur. Jour.*

Treatment of Inflammation of the Tongue. (*Horn's Archiv. für Medizinische Erfahrung.*)

The following cases of this rare but alarming disease form a useful appendix to the paper of Mr. Martin in our last number, and will show that the severe but effectual practice adopted by him may sometimes be superseded by milder treatment. *Case* 1.—A stout man, 68 years of age, by trade a mason, was attacked with pain in the throat, redness of the fauces, and swelling of the tonsils, but without much fever. These symptoms were considerably diminished by leeches applied to the angles of the jaws, emollient gargles, and a mustard pediluvium. But in consequence of exposure to cold he was soon afterwards seized during the night with a tormenting sense of tightness at the root of the tongue, difficulty in speaking and swallowing, and ere long with swelling in the tongue and impending suffocation. When his physician saw him in the morning he could not speak, the pulse was very quick and feeble, the countenance pale and anxious, and the tongue filled the whole cavity of the mouth. On account of the firmness with which the tongue was pressed against the roof of the mouth, and the patient's inability to separate the jaws to half the usual distance, it was found impossible to make on its upper surface more than two short incisions, from which very little blood flowed. An incision was therefore made with the lancet into each sublingual vein; and when the blood ceased to flow, fresh incisions were made, and the discharge promoted by injecting warm water into the mouth. In the course of two hours the swelling was so much diminished that the man was able to rinse the mouth with warm milk, after which a blister was applied to the neck, and a purgative enema administered. A rapid amendment then took place, so that before the close of the day he could speak intelligibly; and his recovery went on steadily. *Case II.*—Another case of a less acute form than the former. It had existed eight days before it came under treatment. The patient had little pain or fever, but swallowed with great difficulty, and could breathe only in the upright posture. The case was cured by blisters, gargles, and the mustard pediluvium.—*Ibid.*

CEPHALALGIA—AGUE—TUBERCLES.

[Bicètre. M. Guerard.]

A young man, (aged 20 years) of feeble constitution, had become affected with tertian fever three months before the date of report, accompanied by cephalalgia frontalis and giddiness, coming on periodically, but by no means in accordance with the fever. He had been bled and blistered before he entered the hospital, but without relief to the cephalalgia. This last, however, gave way to a seton in the nucha, and blisters to the temples. In the course of a fortnight after his entrance into the hospital, he began to evince signs of imbecility—general weakness—want of power in the lower extremities—involuntary discharge of urine. In two months more a dirrhœa came on, and proved very obstinate, although the other functions of the body appeared natural, and the appetite was craving. The emaciation advanced very rapidly—the intellectual faculties became almost annihilated, and he died about four months after he came into the hospital.

Dissection.—In the cerebrum there was nothing particular to be observed, except a very little more serum in the ventricles than usual. But on the upper surface, and on the median line of the cerebellum, was discovered a tumour, an inch and a half in diameter, of a yellowish-white colour, and very firm consistence—in fact, it was a veritable tubercle, surrounded by a softening of the cerebellum to some small distance. There was no other disease in the head. The lungs were found studded with tubercles, and the peritoneum, both lining the parietes of the abdomen, and where it is reflected over the viscera, presented innumerable tubercles, of all sizes, from one to sixteen lines in diameter. Several of the intestinal folds had contracted adhesions, and the whole mucous membrane of the small intestines was covered with ulcerations of various sizes, many of them penetrating to the peritoneal coat.

The lesion discovered after death in the brain, is certainly not in accordance with the ideas generally entertained, respecting the functions of particular parts of the sensorium.

INFLAMMATION OF THE SPINAL MARROW.

It is of great importance to accumulate facts elucidating inflammation of the spinal brain, since this is supposed by many to play an important, though unsuspected part, in many dangerous diseases.

A young lad, aged 16 years, was admitted into the Necker Hospital, on the 3d August, 1826, ill (according to a vague and scarcely intelligible account given by himself) about three days. He seemed abstracted and confused in his ideas, could only answer in monosyllables, and was constantly moving about in his bed. It appeared, however, that he had wandering pains in his limbs, headach, and diarrhœa. The countenance was yellow

—cheeks red, epigastrium very tender, tongue red at the sides and tip, but moist. Under the idea that the boy laboured under gastric and intestinal inflammation, he was leeched, fomented, and had diluents given for drink. Next day (4th August) the leech bites were still bleeding; but there was no amendment. The tenderness, which was supposed to be confined to the epigastrium, was now ascertained to exist all over the body, no part of which could be touched with the finger without causing the patient to cry out, on account of pain. This excess of sensibility over the surface induced the medical attendant to suspect that he had been deceived in his diagnosis, and that the seat of the disease was in the spinal marrow. As the leech bites were still bleeding, and the boy very weak, M. Honoré contented himself with the exhibition of diluents. The mother of the patient having come to the hospital, they learnt that he had plunged eight or ten times from the bridge of Jena into the Seine, on the 31st of August—that, at the last plunge, he had hurt his left leg, but so slightly that he walked home—and that, during the succeeding night, he had been very restless, and complained much. 5th August. The patient was delirious, and talked incessantly, but incongruously. Mercurial frictions every six hours. 6th. All the symptoms aggravated, except the diarrhœa. The frictions could not be properly applied, on account of the universal soreness of the body. 7th. Extreme agitation—cries out constantly—convulsive and involuntary movements, especially of one of the lower extremities—cannot lie a moment in one position—face flushed—pulse quick and strong—skin hot. Twelve ounces of blood from the arm—small doses of laudanum—warm bath. 8th. No alteration. 9th. Prostration of strength—died in the evening.

Dissection. The membranes of the brain were sound—the cerebral substance somewhat more dense than usual. The envelopes of the spinal marrow appeared natural, and the medulla spinalis itself, at its upper part, seemed healthy. Opposite to the 7th cervical vertebra, the spinal marrow was evidently softened, and infiltrated with pus. This species of lesion extended to the fourth or fifth dorsal vertebræ, from whence, to the cauda equina, the organ was unaffected. In the chest, the lungs were sound; but the pericardium adhered to the heart throughout by a soft, cellular, lamellated tissue. There was no other organ or part in a state differing from health.

We think the inflammation of the pericardium, by which that membrane was glued to the heart, played no unimportant part in the symptoms and death of the patient.—*Medico-Chirurgical Review.*

GASTRO-ENTERITIS.

An Irishman had been attacked with fever, and treated in the Fever Hospital, under Dr. Tweedie, who ultimately sent the patient into St. Bartholomew's Hospital, "from the supposition that syphilis had supervened; a bubo having manifested itself in the groin, and a putrid sort of ulcer being discovered on the penis." When admitted, the reporter remarked a wildness of expression and flushed state of the countenance, general tremour of the muscles, and mental imbecility, "sufficiently characteristic of the state and stage of existing fever." He had a dark brown tongue, somewhat moist, and a soft compressible pulse at 100 in the minute—depression of vital powers. In the groin was a large circular slough, emitting a putrid odour. A similar slough was seen on the dorsum of the penis. Mr. Lawrence, supposing that the patient was in the last stage of fever, merely exhibited a few grains of rhubarb, and ordered cold applications to the head, with poultices to the ulcers. Next day all the symptoms were worse, and he was leeched on the temples. Saline medicines with sulphate of magnesia—small quantities of wine and water. On the next day but one the patient died.

Dissection. The alimentary canal was laid entirely open, when it was discovered that the large intestines were in a state of extensive disease. "They were studded, more or less, nearly throughout their extent, with gangrenous ulcers, mostly of the size of an ordinary split pea." The peritoneal covering was sound, but the ulcerations had destroyed the mucous and muscular coats of the bowel. The bag of the cæcum presented one uninterrupted aspect of gangrenous ulceration; and, on sponging the parts, spots of mortification were seen, the intervening portions of mucous and muscular tunics being almost destroyed. The ascending colon was thickly studded with ulcerations, about three lines apart from each other. The transverse colon was also ulcerated, but the ulcers were thinly scattered. The descending colon and sigmoid flexures were nearly exempt. The other viscera of the abdomen and thorax were sound. The arachnoid was opaque, and the pia mater partially infiltrated, and its vessels congested. The substance of the brain was firmer than usual; and rather more than the natural quantity of fluid was found in the ventricles.—*Lancet, No.* 203.

Remarks. Some degree of censure is conveyed by implication on the physician of the Fever Hospital, who sent this patient to Bartholomew's for the treatment of syphilis. Our knowledge of the talents and sagacity of Dr. Tweedie would induce us to conclude that there was some error in the report. Even if syphilis had been unequivocal, the state of fever in which the patient was, when admitted into Bartholomew's, precluded all idea of the application of specific treatment to that part of the complaint. But the state of the intestines, as discovered on dissection, was precisely that condition which cuts off nine in ten of those who go through the fever and die afterwards, without apparently adequate cause. We have brought forward several in-

stances of this kind, and shall not cease to urge the attention of our brethren to this important investigation.—*Bartholomew's Hospital.*

CASE OF TRAUMATIC TETANUS, SUPERVENING A SLIGHT ULCERATED WOUND OF THE FORE-FINGER.

John Cooper, æt. 32; admitted on the 22d of May, under the care of Mr. Earle. The account received from this patient is, that on the 15th May, he received a slight wound on the fore-finger of his right hand from the falling of the tail-board of his cart. He treated it very lightly, and pursued his accustomed labour until yesterday morning (21st) when he experienced a slight shivering, together with a degree of stiffness about the back of the neck, which rendered the motions of the head painful and difficult. Conceiving these symptoms arose only from a slight cold, he went out as usual, but returned in the afternoon exceedingly unwell. His wife was sent for about four o'clock, who found him in bed lying on his belly, and unable to turn. He complained of great pain in his back and neck, more particularly in the throat. At this time there was no trismus. The symptoms alarmed her, and she sent for medical assistance. At 8 P. M. a medical gentleman saw him, who inquired of the patient if he had received any injury. At first he was answered that he had not; but, upon recollecting himself, informed him of the slight injury he had received on the finger. The wound was examined, and found as the patient had described it, nearly well. The pulse at this time was full and hard; the spasms, which occurred about every half hour, were very severe, and there was some degree of trismus. He was immediately bled from the arm to ℥xxxvj. which produced syncope. Hydr. submur. gr. iv. opii gr. j. 2ndâ. vel 3tiâ, quâque horâ.

The bleeding afforded some relief, feeling somewhat easier about his back and throat.

His medical attendant again saw him the next morning. He had passed a very restless night, and was evidently much worse. The spasms recurred every fifteen minutes; pulse hard and 120; trismus to a considerable degree; bowels not opened since yesterday evening. He was sent to the hospital at half-past twelve o'clock P. M., when he was found labouring under the following symptoms:—Muscles of the back and neck very rigid; pain at the root of the tongue; much difficulty in, and aversion to, swallowing; some degree of trismus; countenance expressive of very great anxiety; respiration hurried and difficult; skin contrary to its usual state in these cases, hot and dry. Previous to the return of the spasm, he complains of a severe constrictive pain, which he refers to the bottom of the sternum, darting backward from this point to the spine, evidently in the direction of the diaphragm, which muscle is immediately afterwards convulsed, and subsequently the muscles of the back and trunk. These increasing at times produced opisthotonos. Pulse full, hard, and 120; tongue could not be examined.

Hydrargyri submuriatis, gr. iij. jalapæ, gr. xij.; 2dâ quâque horâ. Misturæ sennæ comp. ℥viij. olei ricini sp. terebinthinæ, aa ℥j. ℏ ft. enema, statim injiciendum.

Two o'clock A. M. Spasms more frequent; complains of pain all over his body.

C. C. ad ℥xl. nuchæ et dorso.

Was convulsed three times during the operation. The cupping has had a decided effect; the pulse is quick and fluttering; the whole body in a profuse cold perspiration; spasms not so frequent; says he feels a little better; bowels obstinately costive. The catheter was introduced, and about a quart of high-coloured urine drawn off.

Cont. cal. et jalap. omni horâ—Rep. enema.

Four o'clock A. M. The spasms have returned with renewed force; has great aversion to take his medicines; complains greatly of his throat, and feels as if he should be suffocated; the mental faculties are entire; bowels not opened; pulse small, irregular, and 140.

Cont. cal. et jalap.—Rep. enema.

Five o'clock A. M. Spasms general and violent; pulse irregular, and not to be counted; respiration greatly affected; is convulsed every five minutes; bowels have not been opened. He lingered until six o'clock, and then expired in a convulsion which lasted two minutes.

Sectio cadaveris—24 hours after death.—The dura-mater was healthy, and a quantity of serum was found between the arachnoid membrane and pia-mater. The substance of the brain was more vascular than usual, and there was more fluid in the lateral ventricles than natural.

That portion of the spinal cord between the third and fifth cervical vertebræ was highly injected; but of its usual consistence. The remaining portion was perfectly healthy.

The sympathetic nerve was very carefully examined, but nothing unusual was observed.

The mucous membrane lining the œsophagus, cardiac portion of the stomach, larynx, and bronchial tubes, was very vascular.

The heart and lungs were perfectly healthy; the blood found in the former was quite fluid.

The abdominal viscera were sound; the intestines inflated with gas; and the rectum was loaded with fæcal matter. The wound in the finger, which was not, originally, more than a quarter of an inch in extent, and which had completely cicatrized, was carefully examined, and found not to extend deeper than the integuments. It had not reached any nerve of importance, nor injured any tendon.

The radial and median nerves which supply the finger were carefully dissected; their branches were found entire, and were not in the slightest degree inflamed.—*Ibid.*

GENERAL SUBCUTANEOUS EMPHYSEMA.

The following curious case is related by M. Vitry, in the *Archives Generales*, for March of the present year.

Case. A child, 26 months old, of good constitution, had a diarrhœa, then constipation, with loss of appetite, sleep, and spirits. On the 22d of December she had severe fever, which confined her to bed. M. Vitry was called in, and applied six leeches to the epigastrium, with lavements and emollient drinks, which relieved the symptoms during the night and next day, when the fever returned with great intensity, accompanied by severe abdominal pains. The pulse was quick but feeble—tongue moist, white at the base and red at the tip—thirst ardent—cough—obstinate constipation. Neither bleeding, lavements, abdominal fomentations, frictions, nor other remedy had any effect in relieving the symptoms, till the twelfth day of the disease, when copious alvine evacuations were procured, followed by a marked remission of the abdominal pains and the fever. But with this melioration of the abdominal affection, the cough increased, so as to become constant; accompanied by extreme agitation, and afterwards intense fever, indicating acute bronchitis. Leeches were now applied to the line of the trachea and bronchia, but without any relief.

On the 5th of January, to the foregoing symptoms were added considerable dyspnœa, especially when placed on the left side—face pallid, except the right cheek—thirst urgent. Six leeches to the intercostal spaces under the right axilla, without relief. 6*th*, The child had a most tremendous convulsive fit of coughing, soon after which, a swelling appeared at the upper part of the chest, which spread to the neck and face. The tumefaction was evidently emphysematous, and attributed by M. Vitry, to the bursting of some of the air-cells during the cough. The little patient's state became more and more alarming—the restlessness extreme—the sense of suffocation imminent—the extremities cold.

During the 7*th* and 8*th*, the emphysema made progress, invading the whole subcutaneous cellular tissue of the head, thorax, and abdomen. The swelling was so great, that M. Vitry despaired of its absorption, and therefore he determined to make some incisions for facilitating the escape of the air. In consultation with several physicians of Versailles, two incisions were made between the ribs, and towards the sternum on each side of the chest, when air was evolved in geat quantity. In four hours afterwards the little patient was greatly relieved; but on the 10*th*, two other incisions were made, and the air was freely discharged. From this time; the cough diminished and the child rapidly recovered.—*Med. Chir. Rev.*

ASCITES WITH PREGNANCY.

We have brought forward several cases in this Journal, where the operation of paracentesis was successfully performed during pregnancy. The following is another addition to the list, from the practice of Mr. James Russel, as recorded in the Medical and Physical Journal for May.

Mrs. Kelly, in the sixth month of pregnancy, was visited by Mr. R. who found the abdomen greatly distended—the legs œdematous—and the rest of the body emaciated. There were present also dyspnœa and constipation of the bowels. She was bled, and took calomel and jalap, which measures relieved the urgent symptoms, and Mr. R. was not again called for a week or ten days; when dyspnœa and painful tension of the abdomen were complained of. She was again bled and purged, with relief; but, in ten days more, the dyspnœa and cough were so alarming, that Mr. R. decided on tapping. The patient was now in the seventh month of pregnancy. The trocar was introduced two inches below the umbilicus, and twenty-three quarts of fluid were drawn off. The cough ceased, the respiration became free, and the tumefaction of the labia pudendi and legs soon subsided. She went on improving for more than a month, when labour came on, and she was quickly delivered of a feeble and emaciated child, which only lived ten days. In two months, the dropsical accumulation had again got to some size, and required the operation of paracentesis, which evacuated thirty quarts of water. The dropsy was a third time returning, when Mr. R. lost sight of the patient.

This, and other cases on record, prove the safety, and even the propriety of the operation during pregnancy. In general, the labour comes on soon after paracentesis; but in this instance it was otherwise.—*Ibid.*

CANCER OF THE CARDIA.

A lady, aged about 40, became affected in the month of November, 1826, with common symptoms of dyspepsia, and her complaint was considered as such by her medical attendants. In the beginning of 1827, the patient began to complain of some difficulty in swallowing solid food, and sense of nausea at the stomach after meals. These symptoms gradually increased to inability to swallow food, or rejection of the food undigested a few minutes after it was taken, by a species of regurgitation rather than vomiting. Mr. Brodie, Dr. Johnson, Mr. Andrews and others were consulted, and the case was considered to be disease about the cardiac orifice of the stomach. Blisters, local bleeding, and various means were used, without arresting, in the slightest degree, the rapid progress of the disease. During the month of May, very little food could be got into the stomach, and constant pain was complained of in the region of the cardia. The patient was nourished principally by enemata. In the beginning of June, she spat up rather suddenly a bloody kind of offensive matter, and all at once she acquired power, not only of swallowing, but of retaining the food. She now

took a good deal of nourishment, and some faint hopes were entertained of recovery. But the discharge from the œsophagus increased in quantity, and became deteriorated in quality—the fever wasted the patient—the thirst was constant—bad matters were passed by stool—the stomach again rejected food, and death put an end to her sufferings, towards the end of June. The dissection was carefully made by Mr. Howship, in the presence of Dr. Johnson, Mr. Andrews, and Mr. Carrick of Kensington. The lower portion of œsophagus, where it enters into the stomach, was in a state of open or ulcerated cancer, for the space of about three inches. A communication had taken place with the right cavity of the chest, in which was found some sanious effusion, and a considerable portion of lung contiguous to the original disease was disorganised and broken down. The stomach itself, and intestines were sound.

This disease was remarkable for the rapidity of its growth. Nine months previous to its fatal termination, the lady was in perfect health. In this respect, disease of the cardiac orifice of the stomach forms a striking contrast with that which affects the pyloric orifice. Where pyloric disease takes place, the food gets readily enough into the stomach—digestion goes on—and some chyme passes into the duodenum till the last. Emaciation is slow and progressive, and vomiting is a pretty constant symptom some hours after the food is taken into the stomach. Where the cardia takes on disease, on the other hand, the food is, in a great measure, prevented from getting into the stomach, and is regurgitated rather than vomited. The system is deprived of nutriment, and death soon closes the scene.—*Ibid.*

CANCER OF THE TONGUE.

In a recent number of the Revue Medicale, we find an account of extirpation of cancer from the tongue, in such a manner as to preserve the organ itself.

M. Thure, ætat. 35, of good constitution, came into the Hospital La Pitié, under the care of M. Lisfranc, in the beginning of September, 1826, affected with cancer of the tongue, occupying two-thirds of the right side of that organ, from its point to the base. The disease had existed since 1823; had begun by ulceration situated nearly an inch from its anterior extremity. The pains, slight at first and intermittent, became, at the beginning of 1826, continued and lancinating. Mastication was almost impossible, and articulation very difficult. The tongue was swollen, hard, and covered with ulcerations. On the right side, under the os maxillaris inferior, there were several lymphatic glands enlarged, and forming considerable swellings. The patient had been some time before on an anti-syphilitic regimen, which aggravated the disease. Before coming into the hospital, he had consulted several surgeons, who all thought that the tongue was affected throughout its whole thickness, and recommended the extirpation of the part affected. M. Lisfranc, having reduced the submaxillary swellings by leeches, agreed with M. Mayor, of Lausanne, to employ for the removal of the disease the plan by ligature, recommended by this distinguished practitioner.

September 20th, the operation was performed in the following manner:—The patient seated in a chair, the head a little bent forward, and well supported, a straight bistoury was carried along the inferior part of the tongue to the place where it ceased to be adherent to the subjacent parts. The instrument traversed the organ from below upwards, and from before backwards, so that its point came out near the epiglottis, where the disease terminated. A section from behind forwards was made to separate the affected part from the surrounding tissues, which it was intended to preserve. This part of the operation being completed, the cancerous tumour was included in the noose of a ligature to strangle its base. The patient did not suffer much, and lost very little blood. He was again put to bed, and had emollient drinks and detergent gargles.

21st. The patient complained of severe pain; there was no diminution in size of the constricted part; there was an abundant salivation. The ligature was tightened, and the pains very speedily disappeared.

22d. No change in the size of the tongue, but, what is remarkable, a cicatrix was formed between the sound and diseased parts, throughout the whole extent of the longitudinal incision which had separated them. This adhesion was immediately destroyed, and a piece of fine linen introduced to prevent its recurrence. The constricted part, deprived of nourishment, soon became black; all the cancerous points were converted into eschars.

The ligature was removed on the sixth day. To the astonishment of every one, on the seventh day, when the dead parts had separated, it was perceived that almost the whole of the tongue was preserved, the surface only of the organ having been diseased. By the aid of detersives and emollients, and a little cauterisation, the wounds soon healed, and the patient was dismissed.

Some months afterwards, M. Lisfranc presented him to the Academy: he then had had no relapse, and the only difference that he felt was his speech being not quite so free as before the disease.

The case is regarded by the French surgeon as remarkable in more points than one. It proves that lymphatic swellings attending cancer may be destroyed by the use of leeches; an immense advantage, which will render operations practicable that otherwise would not be so. It proves also the efficacy of the measure proposed by M. Mayor for removing such tumours by ligature. But by far the most important point is, that we see cases where apparently the whole organ is affected with cancer, when in fact it is only on the surface. This fact furnishes a new

proof of the importance of Mr. Lisfranc's idea, that, before deciding to remove an organ that appears to be entirely cancerous, we should, by means of cautious incisions, discover its depth, and limit ourselves to the removal of such parts only as are affected.—*Lond. Med. and Phys. Jour.*

ULCER OF THE TONGUE.

This is an interesting case. G. R. ætat. 27, entered St. Thomas's, July 5th, under Mr. Travers, with an ulcer at the apex of the tongue, but more to the right than left side of it. It was larger than a shilling piece, its surface devoid of granulations, edges irregular and elevated. Four months previous to his admission he had a sore on the penis, for which he took mercury; about six weeks after this he had sore throat and eruptions, took mercury again, and got well; but, about three weeks ago, the sore on the tongue commenced. Mr. T. ordered extr. sarsapar. ʒij. Decoct. sarsapar. ℥xij. Acid. nit. dilut. ʒj. Tinct. hyosciam. ʒj. A third part of the mixture thrice a day. Pil. hydr. submur. gr. v. Opii, gr. ½, at bed time. Linimentum æruginis to the ulcer. Under this treatment, with the application, subsequently, of a solution of lunar caustic, the sore rapidly improved, and, on the 26th, he was made an out-patient, the sore being no more than half its original size. *Medico-Chirurgical Review.*

EFFICACY OF TANNIN IN BLEEDING OF THE WOMB.—BY DR. PORTA.

The following are the results of this physician's investigations on the use of this remedy:—1st. The tannin acts in a particular manner on the uterus, when this organ is the seat of an irritation, which causes great bleeding from the womb, and when this discharge results from a chronic inflammation of the womb. 2d. In bleeding from the womb, owing to acute inflammation of this organ, it is necessary at first to subdue the inflammation by frequent evacuations of blood, and again to have recourse to the administration of the tannin. 3d. This medicine is of no good in hæmorrhages of the uterus, which are the result of an organic alteration of this organ. Lastly, this medicine, is deserving of preference over every other in the treatment of hœmorrhage from the womb, not only on account of the celerity with which it stops the bleeding, but also because it is efficacious in so small a dose, that the stomach can bear it when in the most irritable condition.—*Lancet.*

OBITUARY—MR. SHAW.

Pallida mors æquo pede pulsat pauperum tabernas Regumque turres.
Vitæ summa brevis spem nos vetat incho are longam.
Jam te premet nox, fabulæque manes,
Et domus exilis Plutonia.

It is our painful duty this quarter to record the decease of Mr. Shaw, which took place on the 19th July, in the 36th year of his age. This excellent anatomist, and deserving young surgeon was attacked with a formidable and protracted fever towards the end of May; but, after a time, he became so far convalescent as to bear removal into the country, and the most sanguine expectations were entertained of his ultimate recovery. On the 17th of July last, however, he experienced a sudden relapse, and survived only a few days.

Mr. Shaw was, for many years, Demonstrator of Anatomy in the School of Great Windmill Street, and took a very active part in the formation of the Anatomical and Pathological Museum of Mr. Charles Bell, a collection, we believe, almost unrivalled for the beautiful manner in which the preparations are put up. On the death of Mr. Wilson, Mr. Shaw became co-lecturer with Mr. Bell, and not long ago he succeeded Mr. Cartwright as surgeon to the Middlesex Hospital.

That Mr. Shaw was no drone, is evident from his writings. The Manual of Anatomy was happily conceived, and not less happily executed. Whilst it laid before the student the details and minutiæ of muscles, and ligaments, and so forth, it directed his attention to the pathological conditions, which those structures are apt to take on, and we do not hesitate to assert has been, and will be, of very essential service to the Junior Members of the Profession. His works upon the Spine evince considerable ingenuity and originality; and though, perhaps, some of his peculiar views may be carried a little too far, there is not a doubt that they are founded in truth and correct observation. Besides these larger works, his numerous papers on the nerves and other subjects, in our different Medical Journals, are strong proofs of able industry.

As a man, and particularly as a teacher, Mr. Shaw will be universally regretted. With the pupils of Windmill Street, he was popular to a degree, for his manners were of that frank, independent character which always tells upon the hearts of young men. He was not, as some are, reserved and supercilious, but entered into the feelings and sympathies of his pupils, and was in word and in deed one of them. Whether his labours in the cultivation of anatomy, may have impaired an originally robust constitution, we know not; but certainly, looking at Mr. Shaw, no one could have supposed it likely that he would have been cut off thus early. It is a melancholy circumstance when we see the youngest and the strongest swept away in their prime, whilst grey-beards still cling convulsively to a scarcely enviable existence; but it is still more melancholy to think, that men, like Mr. Shaw, after years of toil, should not be allowed to gather what they had sown, but should be called to their account in another world, just as they were beginning to taste the sweets of this!

To Mr. Bell, the loss will be great, but the family and friends of the departed, may console themselves with the reflection that he died with a fair fame and unspotted reputation. From our hearts we say,

"Peace to his manes!"—*Med. Chir. Rev.*

Medical and Philosophical Intelligence.

Peculiar effect of the Sulphate of Quinine. By M. Blaud.—During the prevalence of intermittent fever in the fall of the year 1825, we observed that the sulphate of quinine produced in several of the sick a considerable degree of dulness of hearing. This effect was manifested, when the remedy had been carried to the extent of twenty-four grains daily, and on the second or third day of its administration.

It was remarked particularly at the termination of tertian fevers, among children, men and women of a slender form and nervous temperament, and disappeared spontaneously about the eighth or twelfth day. A slight cephalalgia accompanied it, sufficient, however, to show, that it had its seat in the encephalon, which the medicine had probably sur-excited, especially towards the origin of the seventh pair. Since that time, the same phenomenon has frequently fallen under our observation.—*Nouv. Biblioth. Med. &c.*

Partial and Intermittent Alopecia. By M. Labanne.—We find in medical writings, many examples of complete alopecia, consequent upon violent diseases, great mental exertion, the use of mercury, &c. but the following case is, perhaps, unique in the records of medicine.

A man, 36 years of age, addicted to intoxication, but in other respects in good health; after having had an erysipelas of the face, perceived that he lost his eyebrows and beard, every year, about the fall of the leaves, and that they were reproduced with the same regularity in the spring. Throughout the continuance of this partial alopecia, the head and other parts supplied with hair, remained unaffected. The disease returned in this manner for six consecutive years.—*Revue Medicale.*

Messrs. Tiedemann and Gmelin have made many experiments upon the saliva of man, the dog, and sheep; the following are the results which they have obtained.

The saliva of man contains only from 1 to 2.5 per cent. of solid matter; that of the dog somewhat more. It consists, 1st, Of the principle of saliva (speichelstoff.) 2d, Ozmazome. 3d, Mucous matter soluble with the aid of carbonate of potash. 4th, Probably a little albumine. 5th, In man, a fatty matter containing phosphorus. 6th, Soluble salts, consisting of, 1st, Acetate of potash, which can only be demonstrated by incineration. 2d, Carbonate of potash, which in the sheep causes the saliva to effervesce with acids, it is probably in the state of bi-carbonate, and is found in greatest quantity in the saliva of the sheep, next in that of the dog, and least of all in that of man. 3d, Phosphate of potash, more abundant in man and the sheep, than in the dog. 4th, Sulphate of potash found in very minute quantity in either of them. 5th, Chlorure of potassium. 6th, Alkaline sulpho-cyanure, it is found in greatest quantity in the saliva of man, a small portion exists in that of sheep, and perhaps none at all in the saliva of the dog. The chlorure has potassium almost exclusively for its base in man; in the dog and sheep it is combined with sodium and a very minute quantity of potassium. 7th, Substances insoluble in water, which are, phosphate of lime, a little carbonate of lime, and a very small proportion of carbonate of magnesia.—*Annalen der Physik.*

Professr Saint André relates in the Gazette de Santé, eight cases of intermittent fever cured by the exhibition of piperine, after having resisted other modes of treatment. In one of them the sulphate of quinine was used unsuccessfully. The piperine was given in pills, in quantity of two, four, or more grains, according to circumstances.

M. Lisfranc has performed at the Hospital de la Pitié, the amputation of a very extensive cancer, situated upon the lower part of the rectum. The disease extended transversely from one tuberosity of the ischium to the other, and its antero-posterior diameter was about two inches. The finger introduced into the rectum, reached above the indurations, which terminated two inches from the inferior extremity of this intestine. The upper portion of the tumour was very moveable, and could be drawn considerably downwards. M. Lisfranc believed that it affected only the mucous membrane. Two semilunar incisions were made around the ulcerated parts, uniting at their extremities. He dissected from without inwards, as far as the middle of the sphincter; by means of the finger introduced into the rectum, he drew down the intestine, so as to occasion the procidence of the indurated membrane, and removed the whole with the curved scissors. The wound that remained resembled a deep funnel, and it was evident the sphincter muscles were in great part destroyed. Two arteries only were tied. The patient recovered after the lapse of three months; he retains his fæces as before, and experiences no pain on going to stool.—*Jour. Gen. de Médicine, &c.*

New species of Sago.—M. Plance presented to the Royal Academy, a new species of sago, introduced into commerce from the East Indies. It is distinguished from the common kind by being less coloured, and forming a blue with the tincture of iodine, which the latter will not do. The factitious sago from potatoes evinces the same property, but the blue colour disappears after a time, whereas the other is permanent; the latter has also a

different flavour, and is equally adapted to medical purposes.—*Arch. Gens. de Med. &c.*

Penetrating Wound of the Abdomen.—The wound had been caused by a triangular sword, which penetrated obliquely beneath the cartilage of the tenth left rib. The direction of the instrument was from below upwards, a little inclined to the left; the depth to which it penetrated about three inches. The direction of the wound, its examination, made with all the necessary precautions, and the attending circumstances induced M. Laney to believe that the inferior part of the pericardium had been wounded. A considerable hæmorrhage, convulsions, and an alarming syncope were the first symptoms, followed by a fixed and tensive pain in the injured part, separation of the ribs of this side, and great anxiety; symptoms which, according to M. Laney, announced an extravasation into the serous envelope of the heart; the pulsations of this organ were scarcely perceptible to the ear applied over the precordial region; the pulse had almost entirely disappeared. The impending danger was obviated by venesection; cups over the thorax; acid drinks; low diet, &c. At a later period, to facilitate the absorption of the extravasated fluid, moxa and other revulsives were employed, and after a lapse of three months and a half, the patient recovered. There is a slight depression of the left side of the thorax, the pulsations of the heart are very small, as well as those of the radial artery, indicating an atrophy of this organ, or adhesions of the pericardium. The patient could take no violent exercise without inducing syncope and acute pains in the precordial region. M. Laney related three other cases of wounds of the pericardium terminating successfully.—*Ibid.*

Aneurism treated by Compression.—M. Lisfranc reports a case in which there were four aneurisms; one on the inferior part of the humoral artery, another on the radial, a third on the ulnar, and a fourth on the posterior interosseal artery. M. M. Richerand and Laney were called in consultation. It was decided to adopt the plan of Valsalva, compression, the application of ice, &c. All these means proved abortive—unequivocal symptoms of aneurism of the heart manifested themselves, and the ligature upon the brachial artery, which had been proposed in case the above measures should not succeed, was now abandoned. The external aneurisms increased with great rapidity. M. Lisfranc contrived a kind of laced glove, which adapted itself exactly to the whole extent of the member. This plan completely arrested the progress of the aneurisms.

M. Lisfranc cites the case of a young German surgeon, who has had for eight years a false consecutine aneurism of the brachial artery, in which compression produced the like happy consequence.—*Jour. Gen. de Méd. &c.*

M. Lisfranc has performed the operation of amputating the neck of the uterus, upon twenty-two subjects. Of this number eighteen have been relieved by the operation; in several instances, two years have elapsed since its performance. Of the four others, two are in a fair way of recovery; one died twenty-four hours after the operation, and dissection evinced numerous latent cancers along the vertebral column and in the ovaries; and the other after a lapse of three months from a return of the disease.—*Arch. Gen. de Med. &c.*

Prussiate of Iron.—The Chevalier de Kirckhoff, physician at Anvers, has long employed this article with success in the treatment of epilepsy, when not depending upon any organic lesion. It has effected a cure in several instances, where all the usual remedies had been tried in vain.

His mode of administering the medicine, is to commence with very small doses, for example, half a grain daily for an adult, and increase them gradually till three, four, six, and sometimes more grains are taken at each dose. If the patient be of the sanguineous temperament, a large venesection is made to precede its employment, and leeches are repeatedly applied to the temples during its exhibition. An appropriate diet and regimen, are adopted in all cases.—*Jour. des Progres.*

Cæsarian Operation twice practised with success upon the same subject. By Dr. Schenk, of Siegen.—A woman, aged 36 years, of a slender form, had already been the mother of several children, when she became pregnant the seventh time while affected with mafacosteon. This disease had produced such deformity of the pelvis, that the tuberosities of the ischia were not more than two fingers' breadth distant from each other. The pains of labour had already continued three days, and the operation was imperiously demanded. The woman displayed great fortitude, and the child was extracted by an incision in the linea alba, according to the rules prescribed in such cases. It was perfectly developed, and soon gave signs of life, although, at first, it was in a state of asphyria. The extraction was unattended with difficulty, and not more than a pound and a half of blood was lost. Contraction of the uterus followed immediately, the wound was united by means of sutures, and after some pain in the back and loins, the blood flowed from the vagina. On the eighth day, symptoms of an alarming character, great pain and tension of the abdomen, suppression of the alvine and urinary evacuation, difficult respiration, frequent and concentrated pulse, diminution of the lochia, &c. made their appearance, and induced apprehensions for the result; they disappeared, however, under the use of large doses of castor oil, followed by stimulating enemata. Ninety hours after the operation the dressings were removed, and the wound was found reduced in size, from six to four inches; to-

wards the twelfth day a laudable suppuration was established, and with the exception of some temporary difficulty in passing the urine, occasioned by a slight inflammation of the bladder, no unpleasant occurrence took place. Cicatrization had not been completed in the centre of the incision, when three months after, the catamenia made their appearance; a small quantity of the menstrual discharge was also observed to flow from this part of the wound. The same thing took place in the following month, after which the wound was completely cicatrized. Notwithstanding the injunctions of Dr. Schenk; this woman again became pregnant in December, 1824, and the cæsarian operation was again performed with the same success.—*Jour. für Gobentshülfe.*

Plague.—M. Desgenettes has not said, as has been asserted, that the plague was never contagious. He believes it to be so, when it is accompanied by Authrax, and cites among other proofs, that it was communicated to five persons, by means of a silk cravat, taken from the neck of a person, who had authrax on this part of his body.—*Jour. Univ. des Sciences Méd.*

Cystotomy.—Comparative essays upon the results of the different operations of lithotomy, in the human subject, were instituted at the Hôtel Dieu some time since by M. M. Dupuytren, Sanson and Breschet. Of twenty-six subjects, twelve were cut by M. Dupuytren, in the bilateral method, eight by M. Breschet in the lateral method, and six by M. Sanson in his recto-vesical operation. M. Dupuytren lost none of those upon whom he operated, M. Breschet two, and M. Sanson one.—*Ibid.*

In the Revue Médicale for September, M. de Martin, jr. has reported several cases of Intermittent Fever, in which the Sulphate of Quinine was applied externally to blistered surfaces; from his experiments he has drawn the following conclusions.

1st. Sulphate of Quinine, applied to vesicated surfaces, arrests the progress of Intermittent Fever, when no obstacle intervenes to prevent its absorption.

2d. This salt operates in these diseases by a specific action, and not by revulsion or any local impression.

3d. The absorption of the sulphate, in contact with the denuded cutis, takes place very quickly.

4th. The Sulphate of Quinine thus absorbed appears to operate in a smaller dose, than when given internally.

5th. The Sulphate applied in powder to the cutis, produces great inflammation.

6th. Enviscated in a small quantity of cerate, it becomes much milder in its operation, and produces neither pain nor inflammation.

7th. This mode of administering the Sulphate, useful in many cases of simple intermittents, may be a great resource in those of a malignant and obstinate character.

M. Villermé has addressed the following note to the editors of the Archives Generales, &c. "You may add to the case by Dr. Godman of Philadelphia, related in your number for June last, the following fact, to which it bears a strong analogy. A woman was reduced to the last degree of emaciation by a total loss of appetite, and such an aversion to food that she could take no nourishment whatsoever; the epigastric region had long been the seat of some urgent affection. I cannot give further details, because I did not see the patient; but I well remember that the physician in attendance, a gentleman of much skill in his profession, told me, that from his experience in similar cases, he believed himself authorised in trying the effects of an active emetic. It was exhibited, and the woman after vomiting, with some degree of pain, a pseudo-membranous tube resembling the stomach in shape, was entirely restored to health."

Monstrosity.—M. Geoffroy St. Hiliare presented to the Royal Academy of Sciences, a memoir by Dr. de Rambour upon a living child born at Benais in Touraine, 30th Aug., 1826, and resembling the Chinese monster, in having the body of a fœtus attached to its epigastric region.

Both these subjects belong to the genus *hétéradelphe* of M. Geoffroy St. Hiliare, and present the phenomenon of a fœtus united by its abdomen to that of another child, in other respects regularly organized. The two cases differ, however, in that the Chinese monster is acephalous, which is not the case in the other, and the latter has, moreover, a more complete development of the thorax. The Chinese has also three fingers on one hand, and two only on the other, while in that of Benais both hands are well formed.

M. Geoffroy observed that this species of monstrosity was not very rare; it is met with not unfrequently among animals, and he had in his possession, a cat and dog *hétéradelphes*.

Vomiting attending Pregnancy.—The Repertoire Géneral d'Anatomie, &c. contains an essay on this subject by M. Dance, in which he infers from several cases there related, that, when protracted beyond its usual period, this distressing symptom arises from a morbid irritation of the uterus, which together with the membrana decidua, is in a state of inflammation. In two of the cases referred to, he had an opportunity of testing the truth of his conjecture by examination post mortem; pus, coagulable lymph, were found between the decidua and internal surface of the uterus, and other symptoms indicative of inflammation were also observed. He recommends in consequence, the employment of antiphlogistic measures, directed as nearly as possible to the uterus itself, in-

stead of acting upon the stomach, which is only sympathetically affected.

Oily matter in the blood.—M. Adam has observed in the body of a person, who died suddenly from poisoning by some unknown substance, an oily appearance of the blood throughout the venous system. M. S. Trail has also found an oily matter in the blood, forming with the serum of this fluid, a kind of emulsion. A similar phenomenon has been noticed by M. Hodgson in the blood of the horse.—*Jour. Universel, &c.*

Oleo-resinous extract of Cubebs.—By the distillation of twelve pounds of Cubebs, M. Dublanc, obtained two drachms and a half of essential oil. The residium was subjected to the action of successive portions of alcohol; and to the resin procured by the evaporation of the united tinctures, amounting to twelve ounces, the product of distillation was added, forming a compound to which he has given the above appellation. This compound, comprising in a small space, the active properties of cubebs, he supposes well calculated to obviate the inconvenience resulting from the exhibition of that article in large doses.—*Jour. de Chimie Médicale.*

From some experiments performed upon the urine of an icteric patient, M. Braconnot has come to the conclusion, that the yellow colouring matter of this fluid, is identical with that of saffron or polychroïte, as it has been called by M. Haüy. The same principle was found in an albuminous liquid extravasated into the cavity of the abdomen, together with cholesterine and a small quantity of picromel, leaving no doubt of the presence of bile in the latter.—*Ibid.*

M. Breral proposes the following test of the presence of alcohol in the essential oils. When a minute portion of potassium is mixed with an essential oil, no action, or an almost imperceptible one, is observable. The same metal added to an essential oil, containing one-fourth part of alcohol, assumes the round form and brilliant appearance of a globule of mercury, it is agitated, the oxide quickly disappears, and a slight noise accompanies these phenomena. When the alcohol forms a sixth, eighth, twelfth, or twenty-fourth part of the mixture, the same appearances takes place, but more slowly and with some modification, such as a diminution of the noise, &c. This test is not applicable to the oils of cloves and turpentine, which in a state of purity exert a slight action on potassium.—*Ibid.*

In the Gazette de Santé, Dr. Ourgand relates a case of Blennorrhagia, occasioned by the presence of a fish bone in the Urethra, the discharge continued several months, and was accompanied at various periods of its course, with pain about the neck of the bladder and other symptoms of inflammation of that viscus; the formation of a bubo in the left groin, and hæmaturia. An antiphlogistic treatment was productive of considerable relief, but the blennorrhagia still continued, and the patient experienced acute pain in erection. Finally, six months after the commencement of this affection, a fish bone ten lines in length, was discovered in the fossa navicularis, which being removed, every symptom speedily disappeared.

Gangrene of the Lungs.—A woman, 60 years of age, had been subject to repeated attacks of hæmoptysis, which ultimately disappeared at the period of the cessation of the menses. In July, 1823, she suffered from pain in the chest, without cough, which was removed by two applications of leeches. Notwithstanding this melioration, the patient still remained debilitated, and her weakness increasing, soon amounted to an entire prostration of strength. A violent attack of cough now supervened, followed by an expectoration of greenish mucus, in which floated a fatty matter; its appearance was evidently gangrenous, and its fetor insupportable: these symptoms continued with less severity for several days. M. Laennec was called in consultation. By an accurate examination of the thorax, he discovered gangrene, of very limited extent, in the right lung. Leeches were repeatedly applied, a nourishing diet, &c. recommended, and after two months, the patient was discharged cured.

This case is not only interesting as being an example of a very rare disease; it shows also, that this terrible affection may remain latent, without the usual symptoms of pneumonia, until its existence is demonstrated by the fetid expectoration. We may infer from this, the great importance of examining the lungs throughout their whole extent by means of auscultation and percussion, in every case of disease of these organs.—*Gazette de Santé.*

M. Leveillé read before the Royal Academy of Medicine, a case of Laryngo-bronchitis, masked throughout its whole course, by erysipelas of the face, and only recognized a few hours before its fatal termination. The subject of the case, a plethoric and robust old man of sixty-four years of age, was attacked in the first instance by acute pharyngitis, which readily yielded to local depletion by leeches. Six days after, erysipelas of the face made its appearance, for which he entered the Maison Royale de Santé. This disease pursued its usual course; the pulse was at first, full, temperature little altered, and the pharynx and tonsils, which were examined on account of the preceding affection, somewhat red and tumefied. There was a slight degree of somnolency, as usual in such cases,

but no hoarseness or cough, deglutition was unimpaired. The erysipelas gradually disappeared, under an appropriate treatment, and desquamation had already commenced, when on the evening of the ninth day, the patient was suddenly attacked with a severe cough, and expectorated a quantity of tenacious mucus, mixed with albuminous flakes, of which the nurse omitted to apprise the physician on his return, the following morning; little attention was therefore paid to the cough, which moreover, did not continue any longer. On the eleventh day after the invasion of the erysipelas, and the seventeenth after that of the pharyngitis, he was suddenly seized with a violent cough, or rather paroxysm of suffocation, and partly threw up a false membrane, reddish, tenacious, and resembling in every respect the concretions in croup. Symptoms of asphyxia soon manifested themselves, and the patient died in the evening. The autopsis displayed a mucous layer, extending from the tongue to the pharynx and superior surface of the epiglottis; from the margin of the latter, a pseudo-membrane originated, which becoming gradually thicker and more consistent in the larynx, formed the lining of the aeriel passages as far as the second divisions of the bronchiæ—the mucous coat beneath, was of an intense red colour—the œsophagus was healthy throughout its whole extent.

I do not cite this case, observed M. Leveillé, either as an example of croup occuring in advanced life, or of the rapid reproduction of the concretions which characterize this disease; many instances of this kind are recorded in medical writings; what is very remarkable, however, is the slow march of the laryngeal inflammation, during the erysipelas, and its rapid advance after the cure of the latter, without allowing time even to suspect its existence.—*Ibid.*

Extraordinary Growth.—A young man, seventeen years, son of a worker in porcelain, attached to the manufactory of Charenton, died some weeks ago, after a short illness, for which no other cause could be assigned, than the unusual growth of five inches in four days.—*Ibid.*

Experiments on the effects of Compression in Poisoned Wounds.—M. Bouillaud has lately read to the Royal Academy of Medicine, two memoirs on the subject; nine experiments are related in the first memoir. In five of these, from two to three grains of strychnine were introduced into the cellular tissue on the thigh of a rabbit, and according as compression was or was not made upon the limb, by means of a ligature placed above the wound, by a cupping-glass from which the air was not exhausted, or by simple pressure by the hand, upon the injured part, the operator was enabled to prevent or occasion tetanic symptoms and death. In the sixth experiment, six leeches were applied to the incision, made to introduce the poison, and notwithstanding they refused to adhere, all died. In the three last experiments hydro-cyanic acid was substituted for the strychnine with the same results.

In his second memoir, M. Bouillaud endeavours to establish, that venous compression, and not paralysis of the nerves, is the cause of the defect of absorption from the surface of poisoned wounds. With this view, he introduced a grain of strychnine into an incision made upon the thigh of a rabbit—convulsions supervened, which were produced or suspended at pleasure, according as he loosened or tightened the ligature. At the end of twelve hours, the wound was washed, and the ligature removed, convulsions did not recur. Gangrene of a limb was effected by means of a ligature, very tightly applied, the ligature was then taken away, and the animal evinced no symptoms of poisoning, although strychnine had been previously introduced into an incision made for that purpose. Symptoms of poisoning occurred, notwithstanding the division of the crural nerve, and when the poison was applied to the same nerve, isolated in another rabbit, no effect was produced. Convulsions followed when it was placed in contact with a vein similarly situated.

From these latter circumstances, the author concludes, that compression by the ligature, &c. acts only in arresting the venous circulation.—*Bulletin des Sciences Médicales.*

The minister of the Marine, has referred to the Royal Academy of Medicine, several memoirs of MM. Quoy and Gaymant, the naturalists attached to the expedition of captain Durville. These indefatigable travellers, have sent to the museum twenty-five boxes, containing more than five hundred objects of natural history. They announce, that according to observations which they have made, they hope to be able to present eleven new genera, and one hundred and three new species. The expedition is now directed to the coast of New Guinea, which they will probably find an abundant source of riches.—*Revue Médicale.*

M. Virey, on presenting to the Academy a bark analogous to that of cinchona, remarked, that the increasing scarcity of this latter article, had induced government to form the design of sending out botanists to ascend the Orinoco, and collect the best species of this plant, in order to transplant them to Cayenne and other French colonies. The seeds of the cinchona soon lose the power of germinating.—*Nouv. Biblioth. Médicale, &c.*

In the Annali Univ. de Med. Dr. F. Taroni relates a case, in which the placenta was detached by means of the injection of cold water, through the umbilical cord. The

woman had been delivered of a healthy child, thirty minutes before his arrival; the placenta was still retained, and there was considerable hæmorrhage. He attempted to extract the placenta by pulling at the cord, at the same time, that cold applications, frictions, &c. were made over the abdomen, but these measures proved unavailing. Two hours elapsed without effecting any change in the condition of the woman. The hæmorrhage, which nothing had been able to arrest, was accompanied by continual faintings. In this conjuncture M. Taroni resorted to the injection of cold water, as recommended by Dr. Mojon, intending to acidulate it with vinegar, should the water alone be insufficient; in about two minutes sharp uterine pains made their appearance, and the placenta and membranes were expelled.

This case, doubtless, affords some support to the plan of Dr. Mojon, but it appears to us that M. Taroni would have done better to have introduced his hand into the uterus, and endeavoured to detach the placenta, instead of confining himself for an hour and a half to simple traction of the cord, and frictions upon the abdomen. This manœuvre was the more strongly indicated inasmuch as the hæmorrhage was copious and unremitting; if it had proved unsuccessful, which we should scarcely anticipate, recourse might still have been had to the method adopted.—*Arch. Gens. de Med. &c.*

Tænia.—M. Murat has successfully treated several cases of tænia, by the decoction of the root of the punica granatum, in doses of two ounces repeated at short intervals. In one of them, the tænia was voided thirty minutes after the second dose. He thinks there is danger in combining purgatives with the remedy, as is done by some physicians. The bark should be fresh, and taken from an adult and vigorous plant; the want of success in its administration hitherto, he supposes to arise from the want of attention to this latter circumstance. It has, however, failed in several cases, where every precaution was adopted to ensure success.—*Ibid.*

Encysted Tumours on the Head.—M. Cloquet has long since abandoned the crucial incision and minute dissection of these cysts. According to him, the method which he has since adopted, is much more advantageous, in that without any great degree of caution, the tumours can be quickly removed, and the wound united by the first intention. The encysted tumour, of whatever nature it may be, is first divided in the direction of its greatest diameter; with a pair of dissecting forceps, he then seizes one of the edges of the cyst, and draws it towards him with as much force as its consistence will permit, while with a bistoury, he separates it from the integuments and other parts to which it is connected. This mode of dissection leaves an empty pouch and simple incision, which lightly compressed, closes and cicatrizes without difficulty.—*Ibid.*

Absence of the Urinary System.—Professor Mayer of Bowen, has published in the Zeitschrift für Physiologie, the following interesting case.—The subject was a still-born child, at the full period of utero-gestation. The umbilical cord contained only one artery; the crown of the head was depressed, the right eye affected with cataract, and the inferior extremities presented some irregularities of conformation, among others the absence of two toes on the right foot. Instead of the external organs of generation, there was found a small pendulous sac containing cellular tissue. There was no vestige of the anus—the gall bladder was entirely wanting. The intestinal canal terminated with the descending colon, and there was consequently neither sigmoid flexure nor rectum. The colon presented a diverticulum terminating in a cul de sac, and a cord analogous to the urachus, directed towards the umbilicus, but obliterated at the distance of four lines. *The kidneys, ureters and bladder*, were entirely wanting; in lieu thereof, *the capsulæ renales were twice their natural size.* The testicles were very small, and were found in the neighbourhood of the capsulæ. The epididymi were present, but the vasa deferentia terminated in the cellular tissue. There was no appearance of vesiculæ seminales or prostate. The abdominal aorto gave origin to the cœliac, superior and inferior mesenteric arteries as usual, and three very small capsulary arteries. There were no emulgent arteries. The aorto itself, bifurcated in front of the first lumbar vertebra; the umbilical artery arose from the right iliac, which was larger than that on the left side. The brain was depressed still more considerably than the cranium, and separated from it by an interval of two lines. Several of its convolutions had a cartilaginous consistence, which disappeared after having been immersed in alcohol; no other anomaly was perceptible, unless it were the extreme minuteness of the pineal gland. M. Mayer not finding any thing in the derangements of this organ which could account for the almost total absence of two organic systems, supposed that the condition of the spinal marrow, might afford some explanation; his conjecture was well founded.

At the second dorsal vertebra, the spinal marrow terminated abruptly in a rounded extremity of a club-like form. The ischiatie, obturator and crural nerves were nearly in their natural state. The vertebral column ended with the fourth false vertebra of the sacrum; of the last vertebra of this bone, and of the coccyx, a cartilaginous rudiment only existed. In relation to the grand sympathetic nerve, the author observed, that it was less developed than usual at the origin of the abdominal arteries. M. Mayer, after relating a case from Wolfstriegel, analogous to the preceding, remarks, that this absence of the urinary system, in a subject, whose lungs,

heart, liver, spleen, pancreas, and the greater portion of the intestinal tube, were in their natural condition, is well worthy the attention of physiologists. It would seem to show, that the most important functions of animal and organic life, may be performed, at least in the fœtus, without the concurrence of the urinary secretion. He observes moreover, that unless he be mistaken, this is the first case related, in which the absence of glandular abdominal organs, has been connected with that of the spinal marrow; and inquires if the presence of the latter be not essential to the production of the thoracic and abdominal viscera; he refers to a memoir by M. Teidemann, in which this theory is developed.—*Jour. des Progres, &c.*

Phlebites.—Clementine, 20 years of age, of a good constitution, having arrived at the sixth month of her first pregnancy, presented herself 11th January, 1827, at the Hospice de Perfectionnement, complaining of headach, and wandering pains in the breast—she was bled the next day. On the 13th and 14th an ill defined tumour accompanied with pain extending along the bicess muscle, was observed in the bend of the elbow; the day following, the pain had become more acute, and the swelling occupied almost the whole extent of the arm, attended with fever. 16th, tongue red and dry, agitation and suffering very great. 18th, the swelling extended to the thorax—the wound was enlarged and a very small quantity of pus was discharged. 19th and 20th, the condition of the arm is somewhat improved, but the breast is now affected, and the general symptoms more aggravated—20 *leeches to the sturnum.* 21st, pulse 130 and small, she is troubled with cough and intense thirst—12 *leeches.* In the evening, she was apparently better, but the weakness and depression were extreme—the next day, a large blister was applied to the breast. 24th, the debility advances apace; the swelling of the arm has considerably diminished, and the patient makes no complaint. 26th, towards four o'clock this morning, labour pains made their appearance, and followed in quick succession till half after ten; the lips and teeth have a fuliginous aspect, tongue black and dry, pulse exceedingly small; the patient is greatly exhausted, and in a state of extreme agitation. Half after eleven, M. Cloquet finding that the mouth of the uterus dilated too slowly, deemed it necessary to make an incision into it, to the extent of four lines. Finally, the unfortunate woman, collecting the remnant of her strength, assisted the contractions of the uterus and gave birth to a small fœtus, which evinced signs of life for about two hours—the mother died at 2 o'clock, P. M.

On dissection, the median basilic vein was almost entirely obliterated, its parietes about a line in thickness, and all the veins which emptied into this trunk were full of a white and very thick pus; the cephalic vein was unaffected, as were also the veins of the forearm. There was no suppuration in the cellular membrane beneath the skin, nor in the interior of the muscles. Till within a short distance of the clavicle, the brachial and its branches were much thickened and lined internally by a concrete purulent layer; from this point, it was filled with a very fluid pus, of a reddish colour, increasing in intensity as it approached the axilla; this matter was traced to the right cavities of the heart, which were entirely filled with it. The inflammation of the vein however, did not extend so far; at the scaleni muscles, it was scarcely perceptible, and the interior of the heart and superior cave, after being carefully washed, presented no traces of it whatsoever. Although there were marks of recent pleuritis, and evident pulmonary *engorgement* there was no true pneumonic inflammation, and all other parts of the body, were in a healthy condition.—*Arch. Gén. de Med. &c.*

Comparative Nutritive Properties of different kinds of Food.

A very interesting Report on this subject was formerly presented to the French minister of the interior, by MM. Percy and Vauquelin, two members of the Institute, the accuracy of which may be depended on. It may, at this period of public distress, be valuable in those families where the best mode of supporting nature should be adopted at the least expense.

The result of their experiments is as follows:—In bread, every hundred pounds weight are found to contain eighty pounds of nutritious matter. Butcher's meat, averaging the various sorts, contains only thirty-five pounds in one hundred. Broad beans, eighty-nine. Pease, ninety-three. Lentils (a kind of half-pea, but little known in England,) ninety-four pounds in one hundred. Greens and turnips, which are the most aqueous of all the vegetables used for domestic purposes, furnish only eight pounds of solid nutritious substance in one hundred. Carrots, fourteen pounds. And, what is remarkable, as being in opposition to the hitherto acknowledged theory, one hundred pounds of potatoes only yield twenty-five pounds of substance, valuable as nutrition.

One pound of good bread is equal to two pounds and a half, or three pounds, of the best potatoes; and seventy-five pounds of bread, and thirty-five pounds of meat, are equal to three hundred pounds of potatoes. Or, to go more into detail, three-quarters of a pound of bread, and five ounces of meat, are equal to three pounds of potatoes; one pound of potatoes is equal to four pounds of cabbage, and three of turnips; but one pound of rice, broad beans, or French beans, is equal to three pounds of potatoes.—*Edinburgh New Philosophical Journal.*

Detection of Hydrocyanic Acid in the Bodies of Animals poisoned by it, by MM. Lassaigne and Leuret.—The extreme delicacy of the test employed by M. Lassaigne to detect prussic acid in the bodies of poisoned animals,—namely, by means of the per-sulphate of iron, or the per-sulphate of copper, has been already pointed out. Being desirous of ascertaining after how long a period the poison might be discovered, MM. Lassaigne and Leuret made experiments in which animals were killed by hydrocyanic acid introduced into their food, or thrown into the stomach in a diluted state, the dose never surpassing more than the equivalent of five or six drops of the pure acid, or less than two drops: the animals were left after death for twenty-four hours in a chamber, and then buried in a moist earth a foot and a half or two feet deep.

The disinterment took place after various periods, from fifteen days to a month, and the stomach and first portions of intestines being separated, were well divided and mixed with pure water, and distilled; a little sulphuric acid was added to the substances in the alembic, and the recipient was cooled by ice and water.

The products were rendered slightly alkaline, and then tested by the per-sulphate of iron or sulphate of copper, and a little excess of muriatic acid was poured upon the precipitates, occasioned by these salts. No prussic acid could be discovered in animals, the viscera of which was in a state of complete putrefaction: it was found after intervals of two or three days, but never after a longer period than eight days.

From these experiments it appears—1. That prussic acid cannot be discovered in animals poisoned by small quantities of it, after exposition of these bodies for two or three days to the air. 2. That the disappearance of the poison in the viscera after a longer period than this is due to its decomposition, which is favoured by the contact of the putrescent animal matter. 3. That when it is necessary to examine a body judicially to ascertain the presence of this poison, it is important that it should be done as quickly as possible.—*Journal of Science.*

Rheine, a peculiar Substance in Rhubarb.—M. Vaudin treated one part of rhubarb with eight parts of nitric acid at 36° (Baumé) with a gentle heat, and then reducing it to the consistence of a sirup, and diluting it with water, he observed that a peculiar substance was precipitated, which he has denominated Rheine, and which has the following properties when dried:—It is of a yellowish orange colour, without any peculiar swell; its taste is rather bitter, and it is almost entirely soluble in alcohol and ether: these solutions become yellow by acids, and of a rose-colour by alkalis. Rheine burns like other vegetable bodies, especially starch. Rhubarb treated directly by sulphuric ether yields a perfectly similar substance: this proves that the new substance exists already formed in the rhubarb, and that it is not acted upon by the nitric acid.—*Jour. de. Chim. Med.*

Sulphate of Quina.—According to MM. Pelletier and Caventou, not less than 90,000 ounces of sulphate of quina were manufactured in 1826 in France; a quantity which could not have been administered to less than 1,444,000 persons.—*Ibid.*

Adulteration of Sulphate of Quina with Sugar.—M. Winkler has found sulphate of quina, in commerce, adulterated with sugar. The quantity of adulteration was ascertained by dissolving the salt in water, precipitating the quina by carbonate of potass, filtering the liquid, evaporating to dryness, and digesting the residuum in alcohol. This fluid left the sulphate and carbonate of potash, but dissolved the sugar, and by evaporation the latter was obtained in its separate state.

M. Winkler has also met with benzoic acid adulterated with sulphate of lime in crystals. —*Bull. Univ.*

Composition of Cyanic Acid.—M. Wohler some time since announced the production of cyanic acid, and cyanates, corresponding in composition to the substance presumed to exist in the fulminating compounds of silver, mercury, &c., the nature of which was made out by MM. Liebig and Gay Lussac. M. Liebig, upon repeating M. Wohler's experiments upon his cyanate of silver, obtained only 71.012 per cent. of oxide of silver, instead of 77.23, which was the quantity present according to M. Wohler's analysis, and concluded that the acid was the cyanous, and not the cyanic. The latter philosopher was consequently induced to repeat his experiments: one of his methods of decomposing the cyanate of silver was by muriatic acid gas: at first liquid cyanic acid forms, which is very soon transformed into a white crystalline mass; but, on continuing the operation, and applying a higher heat, a large quantity of muriate of ammonia and cyanic acid is evolved. This process indicated 77.5 per cent. of oxide of silver in the salt. Another process consisted in dissolving the cyanate in nitric acid, and precipitating the silver by muriatic acid, the result was 77.05 of oxide per cent. A third analysis, made by reducing the silver of the salt, gave a result of 77.35 per cent. oxide. The mean of these is 77.3, and the theoretical number obtained by calculation is 77.23, so that the acid appears to be truly the cyanic; and the curious fact of its being the same in composition with that in the fulminating compounds of silver and mercury, but very unlike in properties, still remains undisturbed.

Bull. Univ., A. viii. 53.

Indigo and Indigogene, by M. Liebeg.—1½ part of pure indigo, 2 parts of proto-sulphate

of iron, 2½ parts of hydrate of lime, and from 50 to 60 parts of water, were digested together for 24 hours in a close vessel, which had previously been filled with hydrogen. The clear liquor over the sulphate of lime and oxide of iron, had a yellowish red colour, and was separated by a syphon filled with hydrogen, and mixed with diluted muriatic acid, containing some sulphite of ammonia dissolved; a dense white precipitate was formed, becoming blue in the air. This was gathered in a filter without contact of air, and washed with boiled water containing sulphite of ammonia in solution, and dried at 212°, in close vessels, through which a current of hydrogen was continually passed. The upper surface of the mass became of a blue colour, but the lower remained of a dull white.

This white substance was called Indigogene. It did not change colour in dry air, but under water became of a deep blue, which, by drying, assumed a coppery appearance. The blue substance volatilized by heat without leaving any residue, forming purple vapours, which condensed, when cold, into crystals differing in nothing from sublimed indigo. *Indigogene* dissolves in alkalis without neutralizing them: it is also soluble in alcohol, but insoluble in water or acids.

A given quantity of this indigogene was acted upon by ammonia and the weight of the undissolved blue portion ascertained, it appeared that the weight of the pure portion dissolved was 0.404 grammes (6.224 grains.) The solution was put into an inverted jar, over mercury, and oxygen gas gradually passed in until absorption ceased, and then the liquid containing the precipitated indigo was evaporated to dryness at 212°. The weight of the substance was increased to 0.047, *i. e.* 11.5 per cent.

Not having obtained indigogene *perfectly* pure, M. Liebeg did not attempt to analyze it for the ultimate composition. He remarks, that indigo is, perhaps, the only organic body from which one of its constituent parts may be taken without total decomposition; and which, by oxidation, passes to the state of an indifferent body, having much analogy with peroxides.—*Ann. de Chimie,* xxxv. 269.

Peculiar Formation of Nitre.—The leaves and stems of beet root contain oxalate and malate of potash. Some leaves were tied together and hung up in a warm and slightly humid place, where there was but little light, to dry. Being examined at the end of several months, they were found penetrated with, and covered by, an immense number of minute crystals of nitre. The oxalic and malic acids had been replaced by nitric acid; but whether from animalized matter naturally in the leaves of the plant, or from the action of the air, or in what manner, is not known.—M. Henri Braconnot, *Ann. de Chimie,* xxxv. 260.

Specific Heat of Gases.—MM. Aug. de la Rive and F. Marcet having made numerous experiments on the above subject, have arrived at the following conclusions:—

1st, That equal volumes of all gases under the same constant pressure, have the same specific heat.

2dly, That all other circumstances being equal, the specific heat of all gases diminishes with diminished pressure, in a slightly converging series, and in a much less degree than that of the pressures.

3dly, That each gas has a different conducting power; that is to say, all gases have not the same power of communicating heat. —*Ann. de Chim. et de Phys.*

Paper to resist Humidity.—This process, which is due to M. Engle, consists in plunging unsized paper once or twice into a clear solution of mastic in oil of turpentine, and drying it by a gentle heat. The paper, without becoming transparent, has all the properties of writing paper, and may be used for the same purposes. It is especially recommended for passports, workmen's books, legal papers, &c. When preserved for years it is free from injury, either by humidity, mice, or insects. It is further added, that a solution of caoutchouc will produce even a still better effect.—*Kunst und Gewerbe-blatte.*

Incandescence and Light of Lime.—The experiments made by Lieut. Drummond upon the light of lime and other earths when highly ignited, with the highly interesting application which he has made of that emitted from lime, to the purpose of geodesical surveys, has induced M. Pleischel to repeat and vary the results. He states that the utmost light is given by lime; the earth being pulverised and exposed on burning charcoal to the heat excited by a jet of oxygen falling upon it. He endeavours to account for the effect, by supposing a kind of pulverulent atmosphere disengaged from the lime at the high temperature used, and considers that the substances which are competent to emit molecules only in the gaseous state, cannot produce this intense light.

Zeitschrift für Physik, &c.

Evolution of Heat during the Compression of Water. May 14, 1827.—M. Arago announced to the Academy of Sciences, that M. Despretz had ascertained experimentally, that the compression of water by a force equal to 20 atmospheres, caused the disengagement of one sixty-sixth part of a degree of heat.—*Ann. de Chim.*

Magnetic Repulsion.—A very remarkable result has been obtained by M. Becquerel, from the use of an extremely delicate magnetic arrangement, which he has for the pre-

sent called a *sideroscope*. Its use is exactly the same in principle as that of the magnetic needle, indicating iron, for instance, by the attraction manifested; but it is so delicate that it will show it in the most minute quantity possible, as, for instance, in gold, silver, or copper money, innumerable minerals, &c. This instrument shows no magnetic power or attraction in gold, silver, copper, palladium, tin, lead, zinc, or brass, when chemically pure, and a great many vegetable and mineral substances have no action on it: but the most curious result is, that very pure bismuth and even that of commerce has a *repulsive* power, which, if it be found ultimately to be independent of any magnetic *polarity*, is the first fact of the kind that has been made known. Antimony also presents the same phenomenon.—*Ibid.*

Diminished Solubility of Substances by Heat.—Mr. Graham has added one to the few facts of this kind with which we were acquainted, and has accompanied its description with some very interesting considerations, which may be found at length in the Philosophical Magazine, N. S., ii. 20. The salt experimented with by Mr. Graham is the phosphate of magnesia; which may be prepared by mixing a solution of 21 parts of phosphate of soda with one of 15.375 parts of sulphate of magnesia: within 24 hours the phosphate of magnesia precipitates in acicular crystals; they should be agitated with repeated portions of water, then thrown upon a filter with more water, and left to dry.

Solutions were obtained by occasionally agitating this salt with water in the proportion of 2 ounces to a pint of the fluid, for four days; being then decanted and filtered, they had a sweetish taste. A quantity of this fluid being heated in a water-bath, became turbid before the temperature had attained 120° F.; at 212° a cloudy precipitate slowly subsided, and the supernatant fluid became nearly transparent. The precipitate was found to be anhydrous posphate of magnesia; and, by further experiment, the difference in solubility was found to be such, that water at 45°, dissolving $\frac{1}{744}$th part its weight of the anhydrous salt, water at 212° only dissolved $\frac{1}{1131}$th part. When in the state of crystals, or as hydrate, the proportions of salt were $\frac{1}{322}$ and $\frac{1}{498}$ to 1 of water.

Mere continuance of the heat had no effect in increasing the precipitate either of this salt, or from aqueous solution of lime, provided no part of the solution was at any time converted into vapour; but if the solution only occupied a small part of the vessel, and ebullition came on, then, although all the water might be returned to the solution, yet the precipitation went on, and might be increased *ad libitum*, particularly in the case of lime water. The cause of the precipitate appears to be the same in all these cases. The moment a drop of the solution is converted into vapour, it deposites the quantity of lime or salt which it held in solution; and in the case of bodies which dissolve so sparingly and with so much difficulty, although the water be returned again to the solution, it is incapable of re-dissolving what it has deposited. We know that it would be a hopeless task to form a saturated solution of lime, by agitating with the water no more than the few grains which it is capable of dissolving; and in the case of ebullition, when the lime is once deposited, there should be the same difficulty in taking it up.

Mr. Graham states that he has observed this effect not only in lime-water and in solution of phosphate of magnesia, but to a certain extent in all bodies of difficult solubility, in the sulphate of lime, for instance, even when greatly diluted; and he believes that the deposite from slight boiling observed in many mineral waters, and generally attributed to the dissipation of carbonic acid gas, depends, in some instances, upon this cause. However weak the solution may be, it is evident that a portion of the salt may be deposited in this way.—*Qart. Jour. of Science, &c.*

Test for the Presence of Nitric Acid.—The following method is one devised by Dr. Liebig, for the detection of this substance, which it will effect, he says, when there is not more than a four hundredth part of the acid present. The liquid to be examined must be mixed with sufficient sulphuric solution of indigo to acquire a distinct blue colour, a few drops of sulphuric acid added, and the whole boiled. If the liquid contains a nitrate, it will be bleached, or, if the quantity is very small, rendered yellow. By adding a little muriate of soda to the liquid before applying heat, a five hundredth of nitric acid may easily be discovered.—*Ann. de Chimie*, xxxv. 80.

Crystallization of Phosphorus.—By the fusion and careful refrigeration of a large quantity of phosphorus, M. Frantween has obtained very fine crystals of an octoedral form, and as large in size as a cherry-stone.

Solution of Phosphorus in Oils.—The solutions of phosphorus in fixed oils are so luminous as often to be resorted to for the exhibition of this peculiar property of phosphorus; but M. Walcker has remarked, that the power which they ordinarily possess is instaneously destroyed by the addition of small quantities only of certain other substances, as the essential oils. The rectified oils of turpentine and amber, the oils of rosemary, bergamotte, lemon, camomile, angelica root, juniper berries, and parsley seed, the oil obtained by the distillation of the nutmeg, all produce this effect when their quantity is not more than one-fiftieth part of the luminous oily solution of phosphorus. The same effect is produced by adding about a fifth of the oils of aniseed, cajeput, lavender, rue, sassafras, fern, casca-

rilla, mint, orange flowers, fennel, valerian, cherry laurel, or bitter almonds, or balsam of copaiba; but the oil of cinnamon, rectified petroleum, balsam of Peru, and camphor, have no such effect.—*Annal. der Phys.* 1826, p. 125.

New Publications.

Traité d'Anatomié Topographique, ou Anatomie des régions du corps humaine, considerée specialement dans ses rapport avec la chirurgie et la médecine operatoire; par M. P. H. Blaudin. 1 vol. 8vo.; avec atlas de 12 planches, Paris.

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Works in Press.

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THE

MONTHLY

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From the London Medical and Physical Journal.

A TREATISE ON THE NATURE AND CURE OF RHEUMATISM; *with Observations on Rheumatic Neuralgia; and on Spasmodic Neuralgia, or Tic Douloureux.* By Charles Scudamore, M.D. F.R.S. Honorary member of Trinity College, Dublin; Physician in ordinary to his Royal Highness the Prince Leopold of Saxe Coburg, &c. &c.—8vo. Longman and Co. London, 1827.

We have been rather free in our remarks on former productions of Dr. Scudamore's, because we have thought they bore the stamp of precipitation, while there did not appear to us to be any thing of sufficient novelty or importance in their contents to justify their hasty publication. With regard to the present work, however, we find that our author looks upon it as due to the public by a former promise, as well as in the discharge of an obligation of a different kind; he adopts as his motto the words of La Bruyere—"Je rends au public ce qu'il m'a prêté; j'ai emprunté de lui la matière de cet ouvrage; il est juste que l'ayant achevé avec toute l'attention pour la vérité dont je suis capable, et qu'il mérite de moi, je lui en fasse la réstitution."

The volume before us unquestionably has had more labour bestowed upon it than any other of the author's works, except that on Gout, of which it is the counterpart. It is extended, but not complete; minute, but not always precise. Of 576 pages, to which it extends, not less than 333 (considerably more than one-half,) are devoted to cases, which, being given in the same large type as the text, swell out the bulk greatly beyond what was necessary. As it professes to be a "systematic treatise," it commences with a detail of the opinions of various writers, from Hippocrates downwards, all of which we shall pass over, and come to what belongs to Dr. Scudamore himself. His definition of rheumatism, and description of its varieties, are as follow:

"Pain of a peculiar kind, usually attended with inflammatory action, affecting the white fibrous textures belonging to muscles and joints, such as tendons, aponeuroses, and ligaments; the synovial membranes of the bursæ and tendons; and nerves; occasioned by the influence of variable temperature, or by direct cold, or by moisture.

"The species of rheumatism are two, acute and chronic; the former of which may be divided into the acute and sub-acute.

"The Acute Rheumatism.—Pain, with inflammation of the ligaments of the joints, and usually those of the larger joints; or of tendons and aponeuroses; of the sheaths of tendons; of the bursal membranes; and of nerves; aggravated by motion; for the most part attended with external redness of a bright colour, and with fever which has exacerbations, and sometimes distinct remissions; with copious partial perspirations, commonly of an acid odour; and high-coloured urine, depositing abundantly lateritious sediment.

"Sub-acute Rheumatism.—As the term implies, this form of the complaint is intermediate in its symptoms between the high constitutional fever which belongs to the acute rheumatism, and the absence of fever which is characteristic of the chronic. It is much more solitary than the acute, and it often happens that the bursal texture is alone affected, and especially in the knee; but any of the other textures just described, and also branches of nerves, may be affected with partial inflammation in such a degree as not to disturb the constitution with much fever.

"The Chronic Rheumatism.—Pains affecting the ligamentous and tendinous textures, synovial membranes, and nerves, without external signs of inflammation, and unaccompanied by fever, but aggravated by motion." (Page 11.)

After these divisions, our author proceeds to make some general observations on rheumatism, in the course of which we are informed that the ligaments, tendons, and the tendinous parts of muscles and aponeurotic expansions, together with the bursæ mucosæ, are the structures most frequently affected by the disease. Nerves are also said to be often affected; but "it does not happen as a common occurrence that in the large joints the synovial membrane is affected by rheumatic inflammation; and, when it does happen, it is more by extension of the disease from

the parts nearer to the surface than primarily." In this statement we cannot concur: we have seen so many cases in which the knee and shoulder joints have been affected with a circumscribed swelling, evidently produced by the capsular membrane being distended by fluid, with very little or no affection of the neighbouring parts, that we look upon it both as a common occurrence and primary disease. Throughout the volume we perceive a tendency, on the part of the author, to confound those forms of rheumatism which appear to us to be so distinct from each other: he states, indeed, (page 27,) "that rheumatism receives considerable modification of symptoms, and also requires a corresponding modification of treatment, from the influence of the particular texture which may be affected;" but we do not think that his general directions or particular prescriptions, as given in his cases, are in keeping with this observation.

Into the description of the symptoms of rheumatism, which is full and satisfactory, it would be tedious and unnecessary for us to enter. Among the consequences of the disease he enumerates the affection of the heart, and correctly remarks that it does not usually take place from the retrocession of rheumatism, but that "the rheumatic action continues in almost the same force in the limbs, and rarely, if ever, wholly subsides." It certainly has been too common to look upon rheumatism of the heart as an example of metastasis; at the same time we think Dr. Scudamore has himself fallen into error in ranking it among the *consequences* of acute rheumatism, seeing it is only one of its most severe and exquisite forms. The dura mater may also become the seat of inflammation associated with rheumatism, but no attempt is made to point out the particular modifications of the disease which gives a liability to the one rather than the other of these internal affections. According to Dr. Chambers, rheumatism of the fibrous membranes exclusively, or almost exclusively, gives rise to affections of the heart, and rheumatism of synovial membranes to affections of the encephalon; and, in conformity with this opinion, we observe that in the only case of this last description given by Dr. Scudamore (p. 264,) the synovial textures are stated to have been affected.

Among the changes of structure, suppuration is certainly the most uncommon, and, although our author has alluded to two instances of this nature, we confess that they do not appear to us to be very satisfactory.

"When I was at Paris, I was informed by M. Breschet of a case of acute rheumatism which proved fatal; and, as many unusual symptoms had arisen in the course of the disease, an inspection after death was made. In and about every affected joint there was found a considerable quantity of purulent secretion. This case furnishes an exception to the general rule, that rheumatic inflammation does not terminate in suppuration." (P. 34.)

From this case, as the particulars are not given, and as "many unusual symptoms" had occurred, it is obvious that no conclusions can well be deduced. The only other case we have been able to find in which suppuration took place, is at page 289: it had obviously nothing whatever to do with rheumatism, and is headed "inflammation of a doubtful nature at the knee-joint." We do not mean to assert that rheumatism never produces suppuration of the parts, but merely that our author has not, so far as we can see, furnished us with any example of it.

We pass by the causes, predisposing, exciting, and proximate, which are severally discussed, to arrive at the treatment.

Of bleeding.—A general idea of Dr. Scudamore's opinions with regard to this remedy may be gathered from the following extract:

"General bleeding in this disease is a remedy of great importance; but its employment requires much consideration and judgment. If it be proper in the particular case, it is far more advantageous to resort to it promptly, than to allow delay; because symptoms increase, and constitutional power lessens, with the progress of disease.

"It may be laid down as a principle, that, as relating to the local inflammatory action merely, this is not the agent in which we should place our confidence; for it disappoints our expectation of relieving the pain of the disease, unless as the pain and the local inflammation may be connected with the true inflammatory diathesis. In no way is a degeneracy into chronic symptoms so certainly introduced, as by that injudicious employment of general bleeding, which enfeebles the constitution, and still leaves the rheumatic disposition in great force: nor does the articular inflammation itself yield to the use of general bleeding in the manner which we might expect.

"If, however, a patient of strong muscular fibre, and of the sanguineous temperament, be seized with acute rheumatism, in full health, an immediate and free use of the lancet is indispensably necessary. The depletion is to be repeated until the hardness and fulness of the pulse become reduced to a state of softness and moderation." (P. 69.)

These directions are in accordance with the views of the most experienced practitioners, and we have nothing to object to them; but the paragraph which immediately follows contains what appears to us a very unnecessary refinement, and one of very questionable accuracy: we mean the advice of M. Laennec to judge of the propriety of bloodletting by the stethoscope rather than by the pulse, as the former "furnishes a rule more sure than the tact of the most able practitioners." Dr. Scudamore, indeed, observes, that he has, "in some critical circumstances, derived this particular aid from the use of the stethoscope," but it really appears to us to be carrying the matter rather too far to ad-

vise that, in a case of rheumatism or inflammation of any part not within the chest, we should apply the stethoscope in order to discover whether the patient will bear further depletion or not, instead of feeling the patient's pulse as heretofore. Our author, however, is but half a convert to mediate auscultation, for he thinks that "we may in general trust to the experienced touch."

Emetics.—Of these, little need be said.

"If the patient be seized with threatening symptoms of an acute attack, shortly after some convivial occasion, on which he has indulged freely and improperly, the administration of an emetic will, in all probability, be highly useful. But, should inflammatory action be urgently present, it should be abated by the use of the lancet before we have recourse to full vomiting." (P. 90.)

Cathartics and diuretics.—We do not exactly perceive why these are placed under one head; the more, as we find it to contain observations on various medicines belonging to neither denomination,—such as tartarised antimony, opium, hyoscyamus, sulphate of quina, and mercury. These observations are desultory, but not uninteresting.

"I have been much satisfied with the effects of a draught composed of the carbonate of magnesia, carbonate of potash, sulphate of magnesia in small doses, tartarised antimony, lemon juice in fit proportion to neutralise the carbonate of potash, and the acetum colchici, with some agreeable distilled water and sirup. The draught may be taken in effervescence, or otherwise. The addition of the tartar emetic is exceedingly valuable; for my increasing experience with this medicine convinces me that it is one of the most useful remedies which we can employ for the removal of inflammatory action; and, in proportion as we employ it with judgment, so do we diminish the necessity of using the lancet. Its influence is much more permanent than that of digitalis; which, although on many occasions to be regarded as a most valuable auxiliary in the treatment of inflammation, is yet liable to the objection of its restraining action rather than subduing inflammation, and masking rather than curing the disease.

"Upon the first administration of the tartar emetic, it usually sickens to the degree of causing vomiting; but this effect is useful, and it is surprising how quickly the stomach accommodates itself to this medicine, so that it ceases even to nauseate. The maximum and minimum doses of the tartar emetic, which I usually employ in the combination just mentioned, are one grain and one-eighth of a grain; and of the acetum colchici, a drachm and a half and half a drachm.

"In concurrence with this draught, I prescribe calomel with the compound extract of colocynth, at night, for the purpose of producing a more free excretion of bile than would be effected merely by the saline aperient. It also assists in reducing the inflammatory diathesis, and increases the action of the absorbent system. The range of dose which I prefer is from one grain to five, and I am not aware of any superior advantage from employing larger doses. In urgent cases of acute rheumatism, I continue the use of calomel until the gum becomes slightly affected.

"It will usually be expedient to add to the pills just mentioned a portion of opium, or a dose of extract of poppy, or of hyoscyamus, in order to delay the action of the bowels, and assist repose. It may be convenient to join with these ingredients a full dose of opium, for the purpose of relieving or preventing pain. If we are not making use of tartarised antimony in the medicine which we give at regular intervals, it will be beneficial to add it, or James's powder, to the pills. The omission of the compound extract of colocynth may be sometimes advisable.

"In regard to the freedom and continuance of this treatment, we shall inform ourselves, in great measure, by a regular observation of the nature of the excretions, alvine and urinary; for, while the fæces are unnaturally dark, and the urine is dense, of a deep colour, turbid, or even depositing lateritious or pink sediment, the fluid portion being clear, it is incumbent upon us to make daily employment of purgative medicine. When the excretions acquire a natural appearance, the acute symptoms of inflammation usually subside, and then our active treatment must be exchanged for the occasional use of a sufficient quantity of an aperient for the regulation of the bowels; at the same time taking advantage of the absence of fever to introduce the trial of tonic medicine and restorative diet.

"When the stomach is in too irritable a state to allow the continuance of the draught just mentioned, it will be expedient to give, in the morning early, a mixture with senna, salts, and manna, rendered palatable by the addition of some aromatic water, &c. Subsequently, at regular intervals, saline medicines will be useful.

"Such, according to my experience, is the decided advantage of following up a course of purgative or aperient and alterative treatment, when it is not forbidden by any remarkable debility of the constitution. When this exists, a different method of treatment must be adopted. Should there be sufficient remission of fever, it would be important to administer the sulphate of quinine, or some form of bark; but of this practice I shall speak under its proper head.

"To the above exception to the perseverance in the active purgative treatment, I may add, that when the delicacy of constitution, which I have mentioned, is attended by a continuance of febrile irritation, which militates against the employment of any preparation of bark, we shall find it expedient to be contented with the moderate measures of using saline antimonial medicines and sedatives, and the application of leeches for the

relief of particular parts which may be affected with severe pain.

"Even in these circumstances, we shall usually derive advantage from the effects of a mild alterative every night, or on alternate nights, consisting of a grain or half a grain of calomel, a grain of James's powder, with a small portion of crude opium, or four grains of extract of poppy, giving some mild aperient in the morning; or, under some circumstances, directing a lavement. If the bowels be easily irritated, four or five grains of the hydrarg. c. cretâ, or pilul. hydrargyri, will be preferable to the use of calomel.

"As a rule of practice, I hold it to be very important in the treatment of acute rheumatism, carefully to avoid producing mercurial fever, which tends to aggravate rather than relieve the rheumatic symptoms, and produces a new state of distress scarcely inferior in its sufferings to those of the original disease." (P. 92.)

Tartar emetic.—In addition to the remarks on this excellent medicine contained in the above paragraph, we have a separate article upon it, which consists almost exclusively of quotations from the published opinions of Laennec, with regard to the use of antimony in inflammation, and which we therefore think it out of place to notice here.

Sudorifics.—Tartarised antimony again.

Narcotics and sedatives.—Of these opium is unquestionably the best. Our author speaks favourably of it, but alludes to certain injurious effects, which he believes will scarcely ever be met with, if it be given in combination with calomel, and followed by brisk purging.

"The use of opium, as the most important of our sedative medicines, is an eminent point of consideration in our study to relieve the intense sufferings of acute rheumatism. An active state of inflammatory diathesis must be removed by the means already detailed, before we can with any propriety employ opium with freedom, if at all. I have seen permanent delirium, and serious aggravation of fever, produced by the premature administration of opium. It indeed usually happens that opium does not even relieve pain when given during any considerable state of inflammatory action; and this will always be found an important point in practice.

"A due attention must also be paid to the functions of the bowels, the kindneys, and the skin, in order that we may be enabled to seek the advantages which opium is often so happily capable of affording. No contra-indication, therefore, being present, we are to decide upon the particular preparation, and its combination with other ingredients. Most commonly the severest pain takes place during the night, and this also is the period at which it is most desirable to interpose the aid of narcotics; for nature becomes the more exhausted if repose be denied at the season when most wanted and expected. But, if all the indications of treatment are correctly fulfilled, we may also, with every propriety, direct an opiate dose at any time during the day, when pain is urgent. I can recommend, from much satisfactory experience, the following mixture:

"℞. Potassæ Carbonat. gr. cviij.; Succ. Citric. (recentis) ℥ij.; Mist. Camphoræ ℥iijss.; Liquoris Opii Sedativ. ℥jss. ad ℥ij.; Sirup. Tolutan. ℥ss.; Antimon. Tartarisat. gr. j. ad gr. ij. M. fiat mistura.

"Of this mixture, one, two, or three table-spoonsful should first be taken, according to the degree of pain; and a dose should be repeated every hour or two, till relief is obtained. I may observe of opium, that the acetate of morphine is the least stimulating preparation, and that, given in a saline draught with camphor mixture and a small portion of hydrocyanic acid, it will sometimes succeed better than any other form, relieving pain effectually, and not causing headach or confusion. The dose of the acetate is from a quarter of a grain to a grain; and of hydrocyanic acid in this mixture, from one to two drops; to be repeated as the occasion may require.

The effects of opium are, in a very remarkable degree, dependant upon the influence of pain; so that persons who are exceedingly incommoded by even a very small dose, under ordinary circumstances, can bear without inconvenience a large quantity when suffering much pain. There is this charity in disease, that it allows a free use of its appropriate remedy.

"With some few individuals, however, so completely does the nervous system refuse to accommodate itself to the influence of opium, that we are compelled to resort to the trial of weaker narcotics. In some cases, and especially when the inflammatory diathesis does not prevail, and general rheumatic pain, and consequent irritation, predominate, the following draught will be found beneficial:

"℞. Liquoris Ammon. Acetate ℥ss.; Vini Colchici m. xx. ad ℥ ss.; Sirupi Papaveris ℥j.; Mist. Camphoræ ℥j. M. fiat haustus sexta vel octava quâque horâ sumendus.

"It has appeared to me that the wine of the seeds of colchicum is milder than the wine of the roots, but that the latter can be more relied upon for its efficacy. It will occasionally be advisable to prescribe this kind of draught at bedtime only. If it happen that the use of colchicum is not suitable in any form, we may be led to the choice of the compound powder of ipecacuanha in a saline draught, giving it with more or less frequency, as the symptoms may require.

"The weaker narcotics, as henbane, conium, and poppy, cannot be relied on for the relief of acute pain, although they may be competent to relieve moderate pain, and more especially to allay irritation and restlessness; but, with this latter view, I have more confidence in the properties of the genuine lactucarium, or lettuce milk, which may be given in a dose of from three to six grains. Stramonium (prepared from the seeds) was strongly recommended by the late

Dr. Marcet, as an occasional substitute for opium. In my experience, it has not produced such satisfactory results as one or other form of opium joined with antimony; but, in other parts of this treatise, I shall have occasion to speak more particularly of this medicine.

"With some patients, labouring under acute rheumatism, every kind of narcotic proves unfavourable in its effects; and saline antimonial medicines, with mild aperients and occasional alteratives, alone succeed; joining, probably, the influence of general or local bleeding, or both. The inconvenience attending the use of opiates, to which I have just alluded, may arise from two causes: peculiarity in the constitution of the patient, which forbids the influence of any narcotic medicine; or the countervailing irritation which arises from the inflammatory diathesis. In the former difficulty, I have often seen the best effects produced by the administration of a lavement with tincture of opium and a few ounces of water, in quantity from twenty to ninety minims. Of the means to be used for removing the inflammatory diathesis, I have already treated." (P. 104.)

Nitre.—Dr. Scudamore, in one instance of sub-acute rheumatism, knew a patient take half an ounce of nitre daily: "some benefit was derived;" but he considers the practice as much inferior to the other modes detailed.

Peruvian bark.—On this he observes—

"I have, on several occasions, made trial of it, observing the rules laid down by Haygarth; but very generally I have found that it has aggravated both fever and pain. I know from experience that cases do now and then occur, in which the remission of fever is so distinct, and the true inflammatory diathesis is so entirely absent, that it becomes highly proper to make trial of this treatment; but, in such circumstances, I am led to prefer the use of the sulphate of quinine, with or without the addition of sulphate of magnesia, as the state of the alimentary canal may require. It should be given in a dose of two grains, at short intervals. The encouragement to its use will be, that the tongue appears moist, the pulse soft, the skin relaxed, the urine not of a deep colour, and without very copious sediment. The doubtful part of the question, it will be seen, relates to the propriety of using bark during the height of the acute symptoms; for its value at the moment of convalescence is well confirmed by experience. But neither this nor any one point in practice can be reduced to strict rule." (P. 115.)

We think even more unfavourably than our author of cinchona in *acute* rheumatism: he says that its value at the moment of convalescence is well confirmed by experience; but we greatly question this assertion, for we have frequently seen patients beginning to recover from acute rheumatism, who immediately suffered a relapse on bark being ordered by way of hastening their convalescence.

Regimen and diet.—Keeping the patient too warm is reprobated; "comfortable" covering is recommended; and the "lightest" diet enjoined.

Local treatment.—Leeches are the only local means recommended in the acute stage of the disease; but, as soon as the fever subsides, and the pains become fixed in particular parts, we are told that "much advantage will be derived from the use of a lotion, composed of two parts of alcohol and one of mistura camphoræ, applied tepid, by means of several layers of linen, and over them a piece of oil-skin, just extending beyond the linen, but not used as a complete envelope, which might cause the part to be heated. The oil-silk prevents the speedy drying of the rags, and renders the evaporation slow; which, in rheumatism, appears to be more useful than if effected quickly. At night, it is often advantageous to apply a tepid poultice, prepared with this lotion and equal parts of grated bread and linseed meal."

The convalescence.—According to our author, the recovery will be much assisted by various preparations of bark:—this was said before under the head "Peruvian bark," and we have there already expressed our doubts of its accuracy. Exercise and friction are advised; and the necessity of overcoming the "seeming incapacity of motion" which remains after an acute attack of rheumatism, is pointed out.

The next subject connected with acute rheumatism is *metastasis*, particularly the affection of the heart commonly attributed to this cause. The existence of this disease is as well made out as any other pathological fact, and the numerous references to different writers given by our author are therefore unnecessary, so far as regards its establishment, while there is little in the description of the symptoms which is not generally known. We pass on, therefore, to the treatment, and dwell upon this the more because we do not agree in opinion with Dr. Scudamore on this part of the subject.

"On the immediate occurrence of the symptoms, a copious bleeding from the arm is imperatively demanded; and the blood should be allowed to flow until the pulse becomes soft, or until syncope be produced. It must be repeated accordingly as it is called for by returning symptoms. Twenty or thirty leeches should be applied over the region of the heart, followed by fomentation and poultice; but cupping, if it could be borne, would usually be preferable. As soon as the active symptoms of inflammation become relieved, a large blister should be applied over the left side of the chest." (P. 139.)

The point of practice to which we object in this quotation is that which regards the quantity of blood to be drawn. We look upon it as very dangerous advice to let the blood flow "*until syncope be produced.*" We would just reverse this, and say that the risk of syncope ought never to be incurred. Small bleedings only are admissible, (say twelve to

fourteen ounces;) but these must be repeated till the symptoms yield, at such intervals as can be done without the risk of fainting. We know that in the diseased condition of the heart its functions are more easily interrupted than under ordinary circumstances, and that it has happened that syncope being produced in the disease in question by a large bleeding, the heart has never regained its power, and the patient has thus died from the remedy rather than the disease. In this very case the patient had experienced great relief from a moderate bleeding, and it was argued that, if the loss of twelve ounces produced a certain quantum of benefit, the loss of twenty-four would produce still more.

"We must seek to moderate the action of the heart by the use of appropriate medicines, and the most efficacious will be found in the tartar emetic and in digitalis, which may be given in a saline draught, every two or three hours, in full doses." (P. 139.)

Tartar emetic may be of use, but we would not trust to it;—digitalis we believe to be entirely useless under such circumstances: its first effect in the majority of cases, is to increase the heart's action, which is not in fulfilment of any rational indication.

"As this dangerous form of complaint comes on in the midst of a disease which has been already treated, it is not probable that the bowels will be in a loaded state; and bodily quietude is so important, that the action of purgative medicine should be avoided during the height of the symptoms. Small doses of calomel, repeated at intervals of six or eight hours, will, under most circumstances, assist the cure. Extract of poppy, or extract of henbane, will be a useful addition to the calomel; for it is of importance to lull irritability while we are using active means to reduce inflammatory action." (P. 139.)

There can be no question of the propriety of emptying the bowels; and, important as "bodily quietude" certainly is, we doubt whether it need ever be so much disturbed by purgatives as to warrant their omission. Calomel is spoken of as a very secondary remedy, and as to be administered in "small doses:" we think that this medicine, in the affection of the heart under consideration, is next in importance to blood-letting, if indeed it be secondary to it: it is as much indicated here as in iritis, and for precisely the same reason,—viz. to prevent the deposition or promote the removal of coagulable lymph. It ought, therefore, to be administered in full and frequently-repeated doses, so as to bring the system under its action as speedily as possible. Extracts of poppy and henbane are recommended to lull irritability:—why not opium? We have seen a considerable number of cases of rheumatic affection of the heart in which opium (combined with calomel) has been frequently administered, and have been impressed with a very favourable opinion of its utility.

"The limbs, and especially the rheumatic parts, should be fomented with flannels wrung out of hot water, having the addition of spirits and vinegar, and afterwards should be wrapped in flannel. Blisters applied to the limbs will certainly prove useful. Sometimes the prompt action of sinapisms will be highly appropriate." (P. 140.)

In this paragraph Dr. Scudamore evidently writes under the impression of the disease being metastasis, although this is contrary to his own, and we believe to the correct, pathology.

"It is important to observe, that, as soon as we have succeeded in reducing the pulse to softness and moderation, we should refrain from further general bleeding; for the rheumatic action appears to diminish the power of the heart very remarkably, and renders it morbidly irritable in a high degree.

"If the disease pass into the chronic form, the symptoms must be treated according to the character which they assume. I shall hereafter show, by some interesting cases, that the irritable state of the heart, which gives rise to palpitation and high action, rather than strength of pulse, is often more successfully treated by the use of tonics, as the sulphate of quinine or the subcarbonate of iron, and a supporting but not an exciting diet, than by debilitating sedatives and severe regimen." (P. 140.)

In this we entirely concur, as may be seen from our remarks on the first passage in which blood-letting is less cautiously recommended. The general impression resulting from a careful perusal of this part of Dr. Scudamore's work certainly is, that he is not fully aware of the danger of syncope under such circumstances, or of the advantages of mercury: thus we are told that, in the subject of Case XV. (by the by, we believe the only instance of affection of the heart from acute rheumatism in the book,) "the poor youth died, notwithstanding the most prompt and active treatment," yet neither mercury nor opium are mentioned. "Upon examination, the fibrous layer of the pericardium was found partially adhering to the heart by recently-formed portions of fibrine, and the bag of the pericardium contained a few ounces of turbid serum." We never saw such a case do well permanently, when the system was not brought under the influence of mercury.

These remarks conclude an account of the first part of the volume before us,—viz. that relating to acute rheumatism. The consideration of the sub-acute and chronic forms of the disease follow; but we do not find anything in these requiring particular notice. The treatment of the *sub-acute* is similar to that of the *acute*, modified by its comparative mildness; while in *chronic* rheumatism "we may take our choice between a combination of volatile tincture of guaiacum joined with the acetate of ammonia and Dover's powder, or vinum colchici joined with the latter medicines: very full doses of these remedies at bedtime, and smaller doses in the day, should it be expedient to prescribe such repetition." Peruvian bark and sarsaparilla are spoken of

as occasionally useful, and local stimulants, baths, and fomentations recommended.

The volume concludes with some observations on *neuralgic affections*, which, however, are not of sufficient interest for quotation.

From the Edinburgh Medical and Surgical Journal.

ON THE USE OF HYDROCYANIC ACID IN CHOREA.

By John Stuart, Surgeon, Kelso.

My attention was first directed to the use of the Prussic acid by the work of Dr. Granville. From the high encomiums of that gentleman with regard to its utility in pulmonary complaints I was induced to give it a trial; but I was much disappointed, having perceived little or no benefit from it whatever in these cases. For two or three years after I ceased to use it; but about twelve months ago I was led to give it another trial in a young lady, labouring under the case of an affection of the spine, who was tormented with most distressing nervous symptoms. To relieve these the various anodynes were had recourse to, but with little benefit, as the constipation they produced more than counterbalanced their calmative effects. At last I thought of the prussic acid, and I was delighted with the result. It allayed in a remarkable manner the irritability of the nervous system. She took during her illness, of which she died, upwards of eight ounces in six months.

From its utility in this case I was subsequently led to try it in two cases of Chorea. The reports of these cases I herewith send you, and if you think them at all interesting, you are at liberty to make what use of them you please. I am aware of the impropriety of drawing conclusions from the results of two cases; but as chorea is a disease one seldom meets with, it may be long before I have an opportunity of trying the remedy again; and, in the meantime, I should be happy that it were put to the test by others of the profession.

The purgative system, recommended by Dr. Hamilton, senior, I believe to be eminently successful in the majority of cases, and the two subjoined might have yielded to it. At the same time, there are cases which certainly do not yield to that plan of treatment, and in such the acid might be had recourse to. In both the following cases purgatives were tried freely, though perhaps not for a sufficient length of time. In the case of Sally Younger the bowels were so completely emptied, that there seemed to be nothing left in them,—the spine could be felt through the parietes of the abdomen,—the alvine evacuations had become perfectly natural, both in appearance and smell; and yet the disease gained rather than lost ground up to the very day the acid was first given. Forty-eight hours after this, an amendment was observable, and it continued progressive until the cure was complete. In every instance, however, I think free purging should first be employed, and continued as long as the matter passed is unnatural in any respect; for if the disease be owing to a loaded state of the *primæ viæ*, no medicine acting on the nervous system alone can be expected to do any good.

I tried the acid also in the case of a woman who, for several years, has been affected with an organic disease of the uterus. She has not menstruated for a very long period, but every month she is regularly attacked with violent pains in the uterine region, accompanied with a great bearing down sensation, so very great that a person entering the room would fancy she was about to be delivered of a child. To alleviate her sufferings she used to take large doses of opium or laudanum, both in draughts and by injection, frequently with little relief, and always with the effect of inducing great sickness at stomach, to avoid which she frequently declined taking any anodyne. I gave her the acid in doses of six drops, which producing considerable relief, I ventured on giving it in doses of twelve drops, and with the greatest success. It arrested completely in the course of twenty minutes the uterine action. She now takes it every time she has an attack, and very seldom is a second dose required. She now feels as well the day after an attack as she used to do at the end of three or four days, or even a week. From this effect on the uterine system, might it not be employed in those cases where it is thought advisable to suspend for a while the uterine pains? If such a case should occur to me I would not hesitate in giving it a trial.

To ensure the successful exhibition of this medicine several circumstances must be particularly attended to. Care should be taken that it is genuine. What is purchased in the shops is often far from good. The best way to give it, I believe, is in simple distilled water; or, if it should be apt to excite nausea, in cinnamon or peppermint water; and on account of its great liability to spontaneous decomposition, the mixture should never be made to last longer than twelve hours. I am perfectly satisfied that it often becomes quite inert after standing a longer period. The interval, too, betwixt the doses should not exceed two hours; for the effects of the acid are almost immediate and very transitory; and it is of consequence, in the cure of chorea and other nervous affections, that its effects on the system be never allowed to go entirely off. In the spine case above alluded to this was so very evident, that the mother of the child never scrupled to awaken her in order to give it, as she found from experience, that, if she allowed a longer time to elapse, the full effects were not obtained again for a considerable time.

Case 1.—October 19th, 1826.—Janet Reid, aged 13, about fourteen days ago began to complain of pains and weakness of the legs, arms, and back. An unsteadiness in walking was at the same time observed, which gradually increased until she was unable to walk at all. I visited her to-day, and found the gestic-

ulations of the legs and arms very strong: and indeed the whole body was convulsed. Speech indistinct: swallowing difficult: pulse 90: bowels costive: has taken opening medicine several times: has never menstruated. The motions of the body never cease, excepting when she is asleep: awakes always in a great fright.

To have a mercurial purge (calomel and jalap) every other day, with senna tea, till the bowels be freely opened.

October 27th.—The powders operated freely; matter passed offensive, but she is no better: gesticulations as violent as ever; face and breast bruised from the blows she gives herself; speech quite inarticulate: appetite impaired.

℞ *acidi Hydrocyanici guttas xxxij. Mucilaginis gummi arabici, et aquæ cinnamomi, singulorum unciam. Misce. Two tea-spoonsful to be taken every second hour.*

November 3.—Has taken four drops of the acid every two hours since last report. She appears much relieved; gesticulations much less violent: speech more distinct.

Continuetur mistura ut antea.

5th.—Continues to improve; gesticulations much abated; bowels costive: belly very flat.

Sumat acidi Hydrocyanici guttas sex alternis horis, et pilulas gambogiæ duas quotidie hora somni. ℞ *Olei Camphorati uncias ii., Opii drachmas ii. solve. Fricetur dorsum ope hujus linimenti.*

8th.—Continues to improve.

Continuetur acidum hydrocyanicum.

9th.—Not having been in the habit of making up the mixture myself, I committed a mistake, and gave her yesterday double the quantity of acid. Anxious to know the result, I visited her early this morning, and was pleased to find that she had had a very good night's rest, having slept calmly till three o'clock in the morning, and she felt no unpleasant effects from the largeness of the dose: on the contrary, she expressed herself much better. The motions of the legs have almost entirely ceased, and those of the arms are much diminished. The muscles of the face are still much affected, occasioning strange grimaces. She has much more command of the tongue, being able to thrust it out freely, and to speak much more distinctly. Bowels kept gently open by the pills, and the matter passed is healthy in appearance; appetite much improved. I ordered her to go on with the pills every night, and, the weather being very fine, desired her to be taken out every forenoon in a cart, and to continue the acid every two hours in the dose of eight drops.

November 10th.—Within these forty hours has taken ninety-six drops of the acid, and today her mother says she is still continuing to improve. Does not feel any unpleasant effect from the acid whatever, excepting a little nausea. Says it produces on being swallowed a great heat all over her, followed by profuse perspiration. As she now nauseates the acid mixture, I ordered eight drops to be given in cinnamon water every two hours while she was awake, and as long as no unpleasant symptoms should arise.

12th—The acid has occasioned slight headach and profuse perspiration; she is now able to hold things in her hands, and to carry them to her mouth; sleep very composed; slept last night ten hours; appetite much improved: bowels kept open by taking one aloetic pill every night: back rubbed every night with the liniment.

To continue the acid, but only in half the dose.

14th, 18th, 24th.—She is now much better; she is now to discontinue the acid, and take of a solution of quina in wine, a tea-spoonful twice a-day in a little water.

December 3d.—Since last report I have received no intelligence of her from her friends, but I understand she is now doing well, and is able to go about.

10th.—She is now quite well, and has got very fat and stout.

Case II.—April 5th, 1827.—Sarah Younger, aged 13, about four weeks ago was first observed dull and not in her usual health. Her walking then became unsteady, and at last she entirely lost the use of her legs and arms. She has been confined to bed for some time. Her whole body is now in constant agitation; sleep very disturbed; awakes always in a great alarm, fancying she sees frightful objects. The abdomen feels quite flat; has taken two mercurial purges, and doses of senna tea occasionally; bowels open, and what she passes is very offensive; appetite pretty good; thirst urgent; urine in usual quantity; pulse not affected: has never menstruated.

℞ *Submuriatis Hydrargyri grana iv., pulveris Aloes Socotorinæ grana vi. Misce. Fiant pulveres hujusmodi iij.—S. One to be taken every other day, and a little infusion of senna on the intermediate days.*

April 13th.—Continues much in the same state; gesticulations as violent as ever; tongue more affected, rendering her speech very inarticulate; complains frequently of violent pain of the belly; tongue not very foul, much injured by her teeth; bowels have been well purged with the powders, and what she now passes is quite natural in appearance, and not offensive in smell; has very frequent desire to make water; passes it with great difficulty, and in small quantity.

To continue the purgative medicine.

16th.—No improvement whatever; has continued taking laxatives every day, which operated freely. The abdomen is now quite flat. The medicine to be continued as above.

20th.—She is no better to day; gesticulations as violent or rather more so than ever; she is indeed with difficulty retained in bed; purging system pursued with vigour up to this date; alvine evacuations quite healthy. The abdomen is now so flat and empty that the spine can be felt through its parietes.

Seeing no relief from the usual treatment I resolved to try the prussic acid. She began by taking two drops every two hours in a little peppermint water, and every day increased each dose by a drop.

21st.—Has taken eight doses of the acid. The first dose made her very sick, and caused violent vomiting, but the succeeding doses only occasioned uneasiness of stomach and bowels, and headach. Gesticulations not diminished, and in other respects she is much as before.

24th.—I found her to-day considerably calmer; motions of the body not nearly so violent; says she feels better; has taken the medicine regularly every two hours, and the dose was increased to three drops; but it then occasioned violent retching, upon which it was again reduced to two drops. On account of the inconvenience of giving it every two hours during the night, it was ordered not to be given till she awoke in the morning, and then to be continued through the day as before, and increased, if possible, by two drops daily. Appetite and state of bowels as before.

27th.—No improvement; bowels have become constipated; to continue the acid, and to take two gamboge pills occasionally to keep the bowels open.

29th.—Continues much the same; bowels now regular; matter passed healthy. The acid to be continued.

May 2d.—The gesticulations are becoming less violent; speech much the same; sleep not so disturbed; bowels open. In consequence of a mistake on the part of her attendant the acid was not given at the usual periods, and when it was commenced again it occasioned uneasiness of stomach, with violent retching as at first. I ordered that she should continue the acid and pills, and the weather being fine, that she should be carried out daily to get the air.

4th and 9th.—Continues to improve.

15th.—I found her to-day very much better. The gesticulations are much abated, particularly of the legs; speech also more distinct; is able, with a little assistance, to walk across the room; appetite not so good this week; bowels more constipated; has taken a laxative pill every other night, and the acid in doses of three drops and a half every two hours. Her mother says her stomach does not retain it so well as it did, and particularly on the days she takes the pills. I desired her to continue the acid in such quantity as the stomach might bear, and to keep the bowels open.

17th—Continues to improve slowly; motions of the arms, however, are still considerable, and speech inarticulate; stomach will scarcely bear the acid at all. I ordered the acid to be gradually discontinued, and a wine glassful of bitters to be taken twice a-day, and the pills as before.

20th.—Continues to improve; is now able to walk to the door without assistance, and she can make use of her hands: speech also more articulate; appetite improved; bowels regular.

To discontinue the acid altogether, and to go on with the bitters and pills.

27th.—Convalescent; to continue the pills, and use the cold bath daily.

From the London Medical and Physical Journal.

CONSTITUTIONAL INAPTITUDE TO COW-POX.

By George Gregory, M. D. *Physician to the Small-Pox and Vaccination Hospital.*

In a former number of this Journal, (November, 1826,) I offered some observations on what may be termed the surgery of vaccination, in the course of which it was remarked, (page 413,) that failure in the operation does not necessarily presume error on the part of the practitioner, for that several circumstances in the system of the individual may prevent the success of the operation. The object of the present paper is to throw, if possible, some additional light on this subject,—to develop, as far as the author's experience permits, the doctine of a constitutional inaptitude to cow-pox—to point out how it may be at all times recognised—and how far an acquaintance with such a principle may be turned to advantage.

In the course of my attendance on the vaccination department of the Small-pox Hospital, I had frequent opportunities of noticing that a certain number of children passed through the disease in a manner very different from the majority. The vesicles were small, their progress slow, their surrounding areola faint, and the constitutional disturbance accompanying their maturation very trifling,—if, indeed, at all perceptible. In proportion as my acquaintance with these instances of imperfect vaccination increased, I found that such children received the first impression of the virus with great difficulty; that in many cases, out of eight or ten punctures, two only, sometimes only one, succeeded; and that one was often two or three days behind the true period. On the other hand, I learned that in those children whose arms exhibited the most perfect specimens of genuine cow-pox, all the original incisions advanced to maturity; and by degrees the important law was impressed upon my mind, that constitutional and local aptitude and inaptitude to cow-pox accompany each other, and, the mode of vaccinating being in all cases the same, that the proportion of successful to unsuccessful incisions afforded a fair criterion of the degree to which the constitution was predisposed to receive the vaccine virus, and, as we may presume also, to profit by it.

It has been a very common remark, that sickly children, those labouring under inflammatory complaints or cutaneous affections of the porriginous or herpetic kind, and

others in a state of marasmus, are usually unfit, and often quite incapable of receiving the vaccine influence. This observation has been amply borne out by my experience at the Small-Pox Hospital; but it admits of some modifications. In a few instances, where the entreaties of the mother have induced me to vaccinate an unhealthy looking infant, I have been agreeably surprised by an abundant crop of the most perfect vaccine vesicles. Much more frequently has it happened to me to notice that a constitutional inaptitude to cow-pox shall co-exist with the most healthy aspect.

A few instances will be sufficient to illustrate the principle now laid down; after which, it will be my object to point out the practical applications of which it is susceptible.

Case 1.—Jane Thomas, aged one year and six months, residing No. 16, Noble-street, Spa-fields, was brought to the Small-Pox Hospital to be vaccinated, July 26th, 1827. The child is of a pale complexion, but fat. The mother states that she has frequently taken it to the doctor, on account of what she calls a "stoppage at the chest." The child's breathing is noisy, or croupy, and has been so for a considerable time past. An elder brother died of a similar affection, when nearly the same age. I vaccinated the child in seven places.

July 30th.—Only two of the seven incisions have taken. Vaccination repeated in six places on the other arm.

August 4th.—Four of the second crop have taken effect, but the papulæ are all very small and backward.

August 6th, (twelfth day of original vaccination.)—Areola has appeared on both arms, but very faint. There has been much itching of the part, and the vesicles appear as if rubbed. They are small, and, when closely inspected, appear very different from the genuine vaccine vesicles of this period. I explained to the mother, that the child, either from its general state of health, or from some other less obvious cause, was incapable of receiving the full influence of vaccination. I told her to place little or no security upon this vaccination, but to have it repeated hereafter, perhaps in the course of a year or two, when the child's breathing was improved, and its constitution mended.

Considering that in this case vesicles had been produced, with a certain portion of surrounding inflammation, a practitioner not fully conversant with the different aspects of the disease might have have been easily deceived, and have unguardedly pronounced this vaccination as satisfactory. That such opinions were once entertained I can have no doubt, from the answers I am constantly receiving from those who enter the hospital labouring under small-pox subsequent to vaccination.

Case 2.—Jane Mackey, aged two years and two months, residing No. 31, Aylesbury-street, Clerkenwell, was brought to the Small-Pox Hospital to be vaccinated, May 28, 1827. The mother informs me that, at two different periods in 1826, she had taken the child to Rowland Hill's Chapel, where vaccination is carefully performed, but that at each time the pimples died away without coming to a head. The child at the present period is apparently in perfect health. I vaccinated it carefully in fourteen places.

June 4th, (eighth day.)—Only three have taken, and these are very backward and imperfect.

The mother does not appear to have brought the child again.

Case 3.—Stephen Ricketts, aged four months and a fortnight, residing No. 46, Gee-street, Goswell-street, was brought to the Small-Pox Hospital for vaccination, August 20, 1827. The child appears pale, but otherwise healthy. Nine incisions were made.

August 27th.—Only three incisions have taken, and the papulæ are small.

August 31st, (eleventh day of vaccination.)—The three vesicles are small. A slight degree of areola has surrounded them, which is, however, now faded. The child has never suffered, in the slightest degree, in its general health. I told the mother that she could not rely on this vaccination, and advised a repetition of the operation in the course of another year.

Case 4.—Frederick Heutsch, aged two months and a fortnight, residing No. 18 Cornwall-road, Stamford-street, was vaccinated at the Small-Pox Hospital, August 20, 1827. The child was pale, but otherwise healthy. Nine incisions made, which totally failed.

August 29th.—Vaccination repeated in the same number of places.

Sept. 7th, (tenth day of second vaccination.)—Only one of the incisions of the second vaccination have taken, the areola surrounding which is small and imperfect. The mother was informed that she was not to place reliance upon this vaccination for the permanent security of the child.

It may perhaps be demanded, in the first instance, on what authority I venture to assert that such vaccinations as have been just described are incapable of saturating the system, and of giving to the child that full measure of protection of which vaccination is certainly capable. It is true that I have, in no one instance, inoculated the child subsequently, so as to settle the question definitively; but it is unreasonable to attribute the same effects to appearances so widely different as those of perfect and of imperfect vaccination. Besides, as I have already hinted, the accounts of the prior vaccination which I receive within the walls of the hospital from those who have the misfortune to become in after-life the subjects of small-pox, together with the character of the scars on their arms, correspond, in a great number of cases, with the appearances which I have now described.

Another question, too, very naturally arises from the perusal of the foregoing statement: Are there any persons *wholly* unsuceptible of the cow-pox? And is there any reason to

believe that such constitutional inaptitude to cow-pox continues through life? These are questions which, in the present state of our knowledge concerning cow-pox, is scarcely possible to answer. Mr. Cates, of Argyll-street, has favoured me with the history of a child who has hitherto resisted every effort which has been made to imbue him with the vaccine influence; and I have met with several instances at the Small-Pox Hospital of children ineffectually vaccinated at other institutions, who continued there to resist the impression of the vaccine virus. Early in the month of June last, attempts were made to vaccinate six or eight natives of the South Sea Islands, recently arrived in this country, and at that time living on board the Grampus hospital ship. They were all suffering under inflammation of the bronchial passages, and in no instance did the vaccination succeed.

A third question connected with this investigation is important with reference to practice. Does the constitutional inaptitude to cow-pox accompany that to small-pox? That is, in other words, may we reasonably presume that a child who has altogether resisted, or only imperfectly received, the vaccine influence is, for a time at least, equally unsusceptible of the small-pox? It would require a very extended sphere of observation to give a definitive answer to this question. As far as my own very limited inquiries go, (and which I acknowledge to be quite unequal to the determination of so important a point,) I should be inclined to say that the predisposition to the two complaints was the same, and that a reasonable presumption exists, that a child constitutionally inapt to cow-pox is, for the time, equally indisposed to small-pox.

That the doctrine of constitutional inaptitude to cow-pox, either complete or partial, is capable of explaining a very considerable number of the cases which we are now almost daily called upon to witness, of small-pox succeeding vaccination, I cannot entertain a doubt. That there may be other co-operating causes I can well believe; but I am daily becoming more and more convinced that, in the early years of vaccination, appearances on the arm were deemed satisfactory which had no real claim to confidence, and I fear that, even at the present moment, practitioners are too easily induced to pronounce upon the perfection of the process.

I shall add but one other reflection, which has often occurred to me in considering this subject. Many authors have indulged the notion, and among others Sir Gilbert Blane, in his Essay on Vaccination, (first published in the tenth volume of the Medico-Chirurgical Transactions,) that "if mankind were sufficiently wise and decided to vaccinate at one moment the whole human species who were then unprotected, small-pox would be instantaneously and for ever banished from the face of the earth." This notion proceeds on the assumption that the whole human species are constitutionally susceptible of the cow-pox, which is certainly not the case,—at least, at any one given period of time. What is the proportion existing between those who are and those who are not predisposed to receive cow-pox, is a question worthy perhaps of some inquiry, but it is, of course, difficult to arrive at a satisfactory conclusion. Out of the eighty or ninety persons who, upon an average, are vaccinated weekly at the Small-Pox Hospital, I usually find three, or perhaps four, who appear incapable of benefiting by it; and there are perhaps several more whose constitutions are fitted to receive only a certain portion of good from it. If any judgment, at least, can be formed from the various appearances of the arm, and the degree of constitutional disturbance present in the several cases, (and I know not from what other sources information can be gained,) it is unreasonable to suppose that all children can be equally and uniformly affected.

What were the peculiar opinions entertained by Dr. Jenner on the subject of a constitutional inaptitude to cow-pox, I have in vain endeavoured to ascertain. Perhaps some of the readers of this journal, either by more extensive acquaintance with his works, or by personal communication with Dr. Jenner, may be able to instruct me on this head. In doing so, through the medium of this journal, I may venture to add that they will be conferring a favour on the profession at large.

PURULENT OPHTHALMIA.

Dear Sir.—I send you herewith a letter addressed to me by Dr. Varlez, surgeon-major of the Military Hospital at Brussels, on the use of the chloruret of the oxide of calcium, which he seems disposed to consider nearly as a specific in cases of purulent ophthalmia. I have added three cases, selected from many others, which prove its utility, although at the same time demonstrating the necessity for its being accompanied by severe depletion in every instance in which the eyeball is affected. It may perhaps be useful for some of your readers to know that the purulent ophthalmia of *infants* is a much less serious disease than that of adults, and that there are two kinds of it: one affecting the lids, the other implicating the eyeball. The danger, both in infants and in adults, is of course in proportion to the affection of the cornea, although in infants it is less than in children or in adults, where the extent of disease is apparently the same.

I am, dear sir, your obedient servant,

G. J. GUTHRIE.

Dr. Macleod.

OBSERVATIONS ON THE EMPLOYMENT OF CHLORURET OF OXIDE OF CALCIUM *in the Treatment of Purulent Ophthalmia.* By Dr. Varlez, Surgeon to the Military Hospital, Brussels, &c.

You have, without doubt, as well as myself, lamented the unfortunate condition of

those affected with purulent ophthalmia in a severe form, and you will therefore learn with pleasure the favourable results which I have obtained in more than 400 patients, by means of a remedy which up to this time has not once disappointed me. Aware that you have paid attention to this fatal disease, I send you an account of my experience with the chloruret of oxide of calcium, in hopes that you will give it a trial, and make the profession acquainted with the results.

I have treated, during more than ten years, a prodigious number of patients affected with ophthalmia in the military hospitals of the Netherlands, and have seen the disease in all its forms, beginning mildly or with various alarming symptoms, and I have often had occasion to be convinced that it is extremely dangerous when accompanied with purulent secretion, sometimes producing ulceration and destruction of vision, in spite of the most vigorous and rational treatment. I have seen the suppuration continue, and the inflammation produce frightful disorganisation, in soldiers who had been bled ten or twelve times in the arm, temporal artery, or jugular vein. I have seen the most active purgatives, calomel in considerable doses, blisters, sinapisms, and setons, various ointments, together with every variety of collyrium, all fail. I have more than once treated the disease with all these various remedies, and the blindness of the patient which has supervened has attested the energy of this destructive malady, and the impotence of art. In this state of matters, appointed by the good opinion of the principal medical officer of our army to the hospital in Brussels, where the ophthalmic patients are very numerous, and where, just before my arrival, two men had lost their sight, I sought some means calculated to change the mode of vitality of the diseased part, and to suppress the formation of matter, the contact of which on the cornea produces softening, ulceration, and even perforation, sometimes in the course of a few hours. Having been struck with the rapidity with which the chloruret of oxide of calcium, when applied to the ulcers, diminished the suppuration, I directed all my attention to this valuable agent, and it has answered so well to my expectations, that I think I may safely declare that it is the best remedy known, not only in the purulent ophthalmia of adults, but in blennorrhœa and the purulent ophthalmia of children, as well as in all those cases which, having passed into the chronic state, are accompanied with mucous secretion, or disease of the meibomian glands.

In order to enable you to judge of our ophthalmia, and of the success which I have witnessed from the solution of the chloruret, I shall relate some cases, which, if I mistake not, will convince you that the results which I have obtained merit some attention.

Case I.—Ciswiski, a musician, thirty-four years of age, of the lymphatico-sanguine temperament, admitted into the Military Hospital of Brussels, in November 1826, with the following symptoms:—The eyelids red, much swollen, and closed; the conjunctiva of the eye and eyelid tumefied, the first forming a projection round the cornea, which was quite hid; a thick and glutinous suppuration flowed over the cheeks; the patient was tormented with intense headach over the brow; the skin was hot, the pulse hard and frequent, although he had been bled before his arrival at the hospital, by the medical officer at his barrack, who was afraid of mischief speedily supervening. I bled him from the temporal artery to the extent of nineteen ounces. I gently raised the upper eyelid, and depressed the lower, in order to apply to the diseased conjunctiva the solution of the chloruret, which I introduced with a hair pencil, because I could not separate the edges of the eyelids sufficiently to make the application in any other way. This was repeated every three hours, and immediately after the eye was covered with a compress soaked in very cold rain-water, frequently renewed to keep up the coolness.

In six hours, the suppuration had diminished: it was distinctly less glutinous, and not so thick. I took ten ounces of blood from the arm; continued the solution of the chloruret and cold compress as before.

Next day, the suppuration was almost suppressed; the tumefaction considerably diminished, and the patient able to open his eyes. The solution continued, being dropt into the eye eight times in the twenty-four hours.

Twelve days after his admission, the patient left the hospital perfectly cured.

In this case I employed half a drachm of the chloruret to an ounce of distilled water, a fresh solution being made every day.

Case II.—Preisser, a soldier, was admitted into the Military Hospital, the 19th of November, 1826, having been violently stimulated by a prodigious quantity of wine, and having passed the night out of the barrack. He states that his eyes were heated, and became inflamed on the morning of the 19th. On his admission, I found him with the eyelids very much swelled, as if injected with serous fluid; the margin smeared with a tenacious and adhesive suppuration; the eyes shut, and unable to bear the light even through the lids; the conjunctiva of a scarlet colour; the pain severe, extending to the forehead, and accompanied with violent beating of the temporal arteries.

Bled to twelve ounces from the temporal artery. Solution of the Chloruret to be dropped into the eye three times a-day. Cold lotion.

16th.—The swelling of the eyelids is diminished; the pain completely gone.

The solution to be used five times a-day.

Next day, he was still better; and on the 19th he was discharged.

In this case the chloruret was employed in the proportion of a scruple to an ounce of distilled water; but when the inflammation continues, and when the patients bear the

application without complaining, I push the quantity to three or even four drachms in the same quantity of water; and where the eyelids are very much swollen, so that I cannot introduce the solution in such a manner as to cover all the surface of the conjunctiva, I inject it with a small syringe.

Case III.—The infant of M. Crouse, a merchant in this town, was attacked with a severe purulent ophthalmia three weeks ago. I applied the solution of the chloruret, in the proportion of ten drops to the ounce of water, four times a-day. In three days he was quite well.

Case IV.—The infant of M. Forten, bookseller, had laboured more than a year under irritation of the eyes, accompanied with considerable secretion from the meibomian glands. She had been under treatment at Paris for a long time, without any benefit, and yet she was cured in eight days. The solution was used three times a-day.

I have treated with the same remedy a considerable number of cases of purulent ophthalmia, accompanied by granulations, mucous secretion, and an injected condition of the conjunctiva and cornea, and up to this time the remedy has always succeeded. I do not, however, suppose that it can enable the practitioner to dispense with the other resources of art, when they are indicated by the state of the disease: it is thus that in severe acute ophthalmia I employ copious general bleeding, frequently repeated, purgatives, calomel, pediluvia, &c. while in chronic cases I use setons, blisters, &c. conjointly with the solution of the chloruret.

I intend in a short time to publish a work on the ophthalmiæ of our army, and to enter into all the details which relate to the treatment of this formidable disease. At present I shall content myself with adding, that when I perceive that the solution of the chloruret ceases to be of service in chronic ophthalmia, I either augment the quantity or suspend its use, to be again resumed after a time.

The following are three cases in which the remedy was tried by M. Guthrie, at the Royal Westminster Infirmary for Diseases of the Eye.

Case I.—Peter Savage, a bricklayer's apprentice, aged twenty, applied at the Infirmary, May 28th, with purulent ophthalmia, which came on two days before, without any cause that he could assign, or that could be ascertained. The discharge was considerable; the eyelids red, swelled, and closed. On elevating the upper eyelid, the cornea appeared sound, but surrounded and encroached upon by the conjunctiva, which was raised around it in a state of chemosis; the pain in the eye, forehead, and side of the head, great.

V. S. ad ℥xxxvj.—Pil. Cal. gr. vj.; Magnes. Sulph. ℥j.—The eye to be kept constantly wet and cold.

On the 29th I first saw him, and directed the bleeding to be repeated to thirty ounces; and the solution of the chloruret of the oxide of calcium, as sold at Garden's, to be applied three times a-day with a brush to the conjunctiva; the cold water and the purgatives to be continued.

30th.—The external remedies and the purgatives to be repeated, and a blister applied behind the ear.

31st.—The chemosis has greatly subsided; he has no pain; the discharge from the eye is less, the whole of the cornea cannot yet be seen; the swelling of the lid continues.

To be cupped to sixteen ounces.

June 1st.—There being no improvement, but rather a slight increase of pain, fourteen ounces of blood were taken from the arm.

2d.—Better; but, as the pain is not entirely gone, to be bled again to fourteen ounces.

4th.—A return of the pain having taken place, from using the other eye, and attempting to do some work, he was bled to sixteen ounces.

12th.—Continued to improve until this day, when, from having attempted to work, he brought on a recurrence of pain.

To be cupped to fourteen ounces.

21st.—The last remark is—this case is an excellent one, and the cure perfect, there being no defect whatsoever.

The only remedies used were the abstraction of blood, constant purgatives, cold water, and the solution of the chloruret of the oxide of calcium, with a little common ointment applied to the edges of the lids at night.

Case II.—Ann Leacock, aged two years, of emaciated and unhealthy appearance, and having her head covered with tinea, was brought to the Infirmary on the 17th July, labouring under purulent ophthalmia of the right eye, of four days' duration. The lids were firmly agglutinated, and, when separated, a stream of yellow greenish-coloured fluid was discharged. There was much chemosis, but, from the violence of the child's efforts, it was impossible to examine accurately the state of the cornea. She had suffered from measles four weeks previous to her admission at the institution; since her convalescence from which, her eyes had been in a weak state.

To be cupped to ℥iv. from the temple.—℞. Submur. Hyd. gr. iij. o. nocte.—Infus. Sennæ ℥jss. cum Sulph. Mag. ℥j. mane.—Lids to be everted, and the Sol. Oxyd. Chl. Calc., diluted with equal parts of water, to be applied morning and evening. In the intervals, the eye to be frequently syringed with the Lotio Aluminis, and to be repeatedly fomented with warm water.

21st.—Inflammation so far subdued as to permit the accurate inspection of the cornea, which was found to be quite transparent; the conjunctiva very vascular, but not granular. Her bowels had been steadily acted upon, and the general health much improved.

Two leeches to lower lid. Blister behind the ear. Continue the pills and purgative draught.

25th.—Her gums have become tender, and her breath fetid.

Omit the pills. Continue the other remedies.

31st.—Still some discharge, though of a whitish and more healthy appearance.

Continue the topical remedies, and regulate her bowels with Sennæ Infus. p. r. n.

August 7th.—Quite well.

Case III.—Mary Last, ætat. seven, a delicate child, of a scrofulous habit, attacked with purulent ophthalmia of the left eye, of an acute character, for which bleeding, generally and locally, was used, together with tartar emetic to keep up nausea, but without checking the violence of the inflammation: sloughing of the cornea followed, and the sight was destroyed.

On the 30th of July, the right eye (which had some months previously been affected with strumous ophthalmia,) was attacked with the same violent disease, and threatened as speedy a course of mischief as the left eye had undergone. The child was now considerably reduced in strength by the remedies used to relieve the inflammation of the left eye. It was at this time that the opinion of Mr. Guthrie was requested. The lids were much swollen; the superior one was overlapping the inferior, accompanied with a scanty secretion of pus. On raising the superior lid, the cornea, having a clouded appearance, was seen diminished in circumference, from chemosis of the conjunctiva, which was raised in a rolled form around it. The child was pallid, with a weak wiry pulse, and expressed great pain when the eye was touched.

Mr. Guthrie advised twenty leeches to the neighbourhood of the eye, and the drain of blood from the orifices to be kept up as long as possible; and cold applications to the part.

31st of July.—The eye much the same. The leeches repeated, and a solution of the chloruret dropped into the eye three times a-day. The chemosis of the conjunctiva freely excised with the scissors. Mr. G. again saw the child, advised a continuance of the same plan, the application of twelve leeches, cupping on the temple to the amount of four ounces, and a purgative. The bleeding to be kept up during the night, and fresh leeches to be applied, if necessary to its continuance.

August 1st.—The eye better; a more abundant purulent discharge. The conjunctiva looks paler, and the chemosis is much lessened.

The Chloruret of Calcium and cold applications continued.

2d. The eye improved. Mr. G. considered it safe.

The Chloruret continued, and four leeches applied.

The child was now extremely reduced in strength; but the pulse was less frequent and softer, the conjunctiva much paler, and the discharge of a plumy character, hanging in shreds to the surface of the cornea.

From the 3d of August, the eye continued to improve. The child was able to raise the superior palpebra, and two ulcerations were detected,—one extending along the inferior half of the cornea, and the other on the outer side of the superior half: they were perfectly clear, and free from any sloughy appearance. The chloruret was continued, and light nourishment administered.

August 10th.—The ulcerations look smaller, and seem to be healing, a slight haziness appearing round the edges. The child is able to open the eye, and the lids are free from granulations. The discharge is now very trifling, and the general health improving.

The child has had about fifty leeches applied, besides the loss of four ounces of blood by cupping.—*Ibid.*

From the Edinburgh Medical and Surgical Journal.

NOTES ON THE EPIDEMIC CHOLERA. By R. H. Kennedy, M.D. &c. *Surgeon, Bombay Presidency. Printed at the Baptist Mission Press, Calcutta.* 1827. 8vo, pp. 277.

We have repeatedly had occasion to turn the attention of our readers to the deeply interesting subject of the cholera of the east. We shall now recur to it for a moment, that we may lay before them the additions made to our knowledge by the work of Dr. Kennedy.

In an analysis given in this Journal for July 1825, of the reports of the three Presidencies, it was shown, that the Epidemic, Malignant, or Indian cholera, although it had never before been so alarmingly prevalent, or so generally diffused as it became in 1817, was by no means, as many imagined, unknown in India, or a disease of modern origin; and that Dr. Scott, the compiler of the admirable report from Madras, had clearly traced a succession of partial visitations of it so far back as 1774, and even discovered descriptions of an analogous disorder in some old Hindoo medical writings. But Dr. Kennedy has carried the researches of his predecessor still farther, and maintains that the epidemic cholera was very well known to Celsus, and is very well described by him. He alleges that modern readers allow themselves to be misled when they suppose that the Latin noun *bilis* is equivalent to the English term *bile*, whereas it was used to designate fluid secretions generally, and not the bile alone, which was always denoted by the noun *fel*,—that they have also erred in conceiving *cholera* to signify only a flow of bile, whereas it may with equal, if not greater reason, be translated a *flow from the intestines*;—and that no one would have thought of calling cholera, as it has lately appeared in India, a new disease, if the errors alluded to had not obscured the meaning of a passage in which Celsus describes clearly, though in his usual succinct method, an identical disorder. The essential parts of the passage referred to are as follows:—"Primoque facienda est mentio choleræ; quia *commune id stomachi atque in-*

testinorum vitium videri potest; nam simul et dejectio et vomitus est: præterque hæc inflatio est, intestina torquentur, bilis supra infraque rumpit, *primum aquæ similis, dein ut in ea recens caro lota esse videatur, interdum alba,* nonnunquam nigra, vel varia. ..... Non mirum est si *subito* quis moritur; *neque tamen ulli morbo minori momento succurritur.*"—iv. 11.

Leaving these excursions into philology and ancient history, which are at least ingenious and novel, it is of more importance to remark that there seems little likelihood of the disease being soon lost sight of again. The Madras report, which was concluded in December 1822, notices several appearances of it in the course of that year, in the lower part of the Peninsula; and Dr. Kennedy, whose information is the most recent, tells us that he saw it very prevalent at Baroda, in Guzeratte, during April and May, both in 1825 and 1826, and that he understood it raged about the same time throughout most of that province. In short, it appears highly probable that the epidemic cholera has never been entirely absent from Hindostan for the last nine years, and that it is now fairly established as one of the scourges of the country, of which a visitation in the epidemic form may be looked for at very short intervals.

Under these circumstances it becomes an object of paramount importance to determine as speedily as possible its origin and mode of propagation. In the notices formerly given in this Journal, repeated allusions have been made to an opinion, which seemed to be gaining ground among the practitioners of the east,—that it propagates itself by contagion or infection. To this opinion it would appear that many converts have been gained more recently; in 1825 it received the powerful support of Sir Gilbert Blane, founded chiefly on a consideration of the facts adduced in the reports of the presidencies; and now it is espoused in the most uncompromising manner by our author, Dr. Kennedy, who has added to Sir Gilbert's reasons the results of an extensive personal experience. "To the best of my judgment," says he in winding up his chapter on this question, "I know no character belonging to any contagious disease which cholera does not appear to me to possess; and if it be not contagious, I know no other disease which I should be inclined to consider so." p. 67. It is chiefly to the question of its contagiousness, and to the no less puzzling question of its pathological cause or essence, that the observations of Dr. Kennedy are confined: and it is to these subjects that we shall also confine the few remarks which follow.

And first of its contagiousness.—While we are ready to give Dr. Kennedy ample credit for the sincerity of his opinion, the care with which he must have formed it, and a consciousness of "the delicacy of the ground on which he has advanced," we doubt whether the philosophic reader, who is acquainted with the late discussions on the doctrine of contagion in Europe, will be satisfied with the reasons which are adduced by the doctor, or will find that his exposition of them contains any new argument of consequence. While, therefore, we sincerely recommend this part of his work to the reader's regard, as containing a correct account of all that has hitherto been collected in favour of the contagiousness of the disease,—it will probably be more useful, if, instead of an analysis of Dr. Kennedy's observations, we state briefly what are the most decisive facts to be looked for in the ulterior inquiry, which every one will on reflection perceive to be necessary for settling the present question.

1. It is quite unnecessary to attach any importance to the numerous instances recorded in which the disease, after appearing in a district, has extended itself over it apparently by communication with the sick. Facts of this kind are easily explained by the non-contagionists, provided it cannot be shown that the disease spread *gradually, and from the original spot of its appearance as a centre, except where a deviation from its regular course was connected with special inter-communication or special seclusion.* The argument derived from the extension of cholera among those who inter-communicate is no where stated, in this strong point of view, in any of the works we have had an opportunity of examining. We must not allow the opponents of contagion, however, to take advantage of this negative argument in support of their view of the question; for it is plain, that the facts in the particular shape we desire would not readily present themselves to any one spontaneously, or without the observer's attention being directly turned to them in the way of inquiry. It is singular, but not the less true, that of those who espouse the doctrine of the contagious nature of cholera, no one appears to have made himself master of the recent European discussions on the subject of contagion, and, thus instructed, stepped on the field of practice to search for the means of decision.

2. The next argument in favour of propagation by contagion generally, though the necessary facts are much more easily collected, is not more strongly stated than the first in any of the Indian works on cholera. It is drawn from the circumstance that those who attend the sick are attacked in much greater proportion than others, who do not, but who in all other respects are circumstanced precisely in the same way; and an important addition is derived from the fact, that among the different classes of attendants the proportion seized is in the ratio of their attendance. The first part of this argument has been very well stated in a notice in this Journal (xxi. 488) regarding the propagation of the epidemic fever of Edinburgh in 1817-20 among the middle ranks. It may be more strongly expressed thus: Among the young men of the middle orders in the city, fever was almost unknown, except among those who either attended the two hospitals where

fever patients were admitted, or visited the out-patients of the dispensaries. Of the hospital students generally a few were attacked; of the dressers, who were longer in the wards, and in closer proximity with the sick, a much larger proportion suffered; and of the medical and surgical assistants, or *clerks* as they are called, who lived in the hospitals, not more than one escaped out of fifteen; yet the latter class were, with one or two exceptions, above the average in healthiness and strength. A concurrence of incidents like this compels the non-contagionist to resort to the far-fetched and improbable doctrine of the existence of local miasmata in particular houses, or even particular rooms. A similar argument may be constituted in various ways, but in no form is it so weighty as when drawn from the experience of a city hospital, because in no form is it more easily guarded from the various fallacies which surround it.

No satisfactory incident of this nature has been recorded in the publications on the cholera of Hindostan. It is stated by Dr. Scott that thirteen medical officers of the Madras presidency died of it between 1817 and 1822; that fifteen or twenty more had it, but recovered; and that frequently the medical officer of an establishment was the only European who suffered. But so long as this statement is not protected against several obvious fallacies,—and particularly against the counter-statement, that the medical officers were in many instances the only persons of their rank who had occasion to visit the particular districts where the cholera atmosphere prevailed,—no valid inference can be founded on it. On the same account we must throw aside a similar though somewhat better-stated fact, mentioned by Dr. Kennedy,—that in the course of the twelvemonth ending June 1826, four medical officers of the Bombay establishment out of 116 died of cholera, while among the other gentlemen, military and civil, so great a proportion of casualties from cholera did not occur in the course of the whole prevalence of the epidemic from 1817 downwards. Several striking instances have occurred of its spreading among the nurses and other servants of hospitals. But so long as incidents of that nature are not guarded by a relation of the concomitant circumstances, little importance can be attached to them,—especially as those recorded are more than counterbalanced by other incidents directly the reverse.*

3. One of the most striking features of a contagious disease is its progressive advancement from district to district, and from country to country, and more especially the slowness with which it advances. Like Sir Gilbert Blane, we can hardly see whence such a character can be derived, except from the mode of propagation being by human intercourse. When viewed in relation to this character, the history of the cholera of the east furnishes a very powerful argument in support of its contagious nature. So far as can be ascertained, it first appeared in the Company's territories about seventy miles north-east from Calcutta in August 1817. From this point it very slowly passed westwards across the base of the triangle forming the Peninsula, till in August it reached the coast at Bombay and Surat. At the same time it penetrated southward to the apex of the triangle by at least two distinct lines. One of these followed the coast from Calcutta, and it took from March 1818 till January 1819 to pass from Ganjam in the Northern Circar to Palamcottah, near Cape Comorin, a distance of 1000 miles. The other, leaving the middle of the transverse route between Calcutta and Bombay, penetrated southward to the apex of the triangle in two lines; and in passing from Nagpoor in Berer to Trivandrum near Cape Comorin, a distance of 900 miles, it took from May 1818 to January 1819. We might farther illustrate the present statement by referring to its very slow progress, occupying fully three years, from the north of India, through Persia and Syria, till it reached Antioch on the Mediterranean in June 1823, as stated in an analysis we have given of an historical document published by Dr. Rehmann of St. Petersburg, (xxiii. 222.) But confining ourselves to what is completely and minutely authenticated, we repeat that its slow progress across and down the Peninsula in 1818 is hardly explicable, except by the doctrine of propagation by human intercourse.

This intercourse was established by means of the troops. And it seems there have been since 1817 circumstances connected with their movements, which did not exist before, and which will explain in part at least why the disease has passed so frequently from place to place since 1817, and why its visitations before that time were so partial. These circumstances have been touched upon with great felicity by Dr. Kennedy.

"Within the last forty years," says he, "the Peninsula has become but one empire; and the communication which heretofore had been slow, casual, and hazardous, even betwixt contiguous districts, has thereby become not only uninterrupted and frequent in the intercourse of trade, *but is enforced from one end of India to the other, by the course of annual relief of troops:* a system of uninterrupted intercourse which, it ought to be remembered, was more particularly commenced on its present extensive scale in 1817, the first year of the epidemic." p. 53. "The

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* "Every one," says one of the Bombay reporters, "of the medical attendants of the 65th regiment, and they are thirty in number, has been attacked." (Bombay Report, 46.) "In the hospital of the Royals, only one individual out of a hundred and one attendants was attacked." (Madras Report, 10.) Many other equally opposite facts might be quoted; but they are none of them material, as the reporters pay no regard to collateral circumstances.

breaking down of so many frontier barriers, and the consolidation of so many distinct and separate states (always jealous of each other, and frequently at open war) into one universal sovereignty, enjoying the most facile and uninterrupted intercourse, has, by the establishment of rapid and constant communication, invited or enforced between the extremities of the country, become the only apparent cause of the unusual dissemination, and regular succession of the pestilence, now under consideration." p. 74.

No species of communication between district and district can be imagined more effectual for propagating a contagious disease than the movements of abody of troops, *particularly in India.* And that some such effectual intercourse is necessary to its propagation from district to district in the present instance, will, we think, appear from two particulars regarding the disease,—namely, the exceeding shortness of its course, and the brief interval which (if it really is propagated by infection or contagion,) elapses betwixt exposure and seizure. These two characters will not interfere with the rapidity of the diffusion of a contagious disease over a town or thickly-peopled country district, but must render nearly harmless all ordinary communication between one district and another even moderately remote. The cholera appears to have spread rapidly in a particular spot, but slowly from one part of the country to another.

4. By far the most unequivocal evidence of the propagation of a disease by intercourse with the sick is that which has been so correctly and irresistibly enforced by Dr. Alison in the present number of this Journal, in support of the contagious nature of the British fever, (see p. 241,)—namely, the evidence of the disease breaking out in *several* previously unaffected districts, at a time corresponding with the arrival in them and sickening of persons who had intercourse with the sick in an infected district. It is to this criterion chiefly that we must look for the decision of the question of the contagiousness both of cholera and of other diseases whose propagation by intercourse is at present the subject of dispute. In the Indian reports we have been able to find but one instance of the kind; but as the report even in that instance is imperfect, and bears other intrinsic evidence that the compiler was not aware of its peculiar importance, we may be well assured that others may have occurred although they have not been noticed. At Jaulnah, which is 230 miles north-east-by-east from Bombay, and which had been previously free from the epidemic, it broke out on the 3d July 1818, a few days after the arrival of a detachment who left Nagpore while the disease prevailed, who suffered from it on the march, and *whose arrival was dreaded as their state was known.* From Jaulnah it appeared to pass by intercourse nearly about the same time to at least three, probably four other previously healthy stations, Aurungabad, 40 miles west, Malligaum, 100 miles west-north-west, Hydrabad, 250 miles south-east, and Nussurabad, 80 miles north-north-west. On the 6th July a party of gentlemen, with 1000 followers, who arrived in good health at Jaulnah three days before, set off for Aurungabad; on the way the disease appeared among them, and at Aurungabad it broke out for the first time a few days after their arrival. About the same time a considerable body of people left Jaulnah for Malligaum; on the way some of them were attacked, and on the 13th, soon after their arrival at the camp of Malligaum, which had previously been free from the disease, it broke out with violence. On the 4th July a brigade arrived in good health at Jaulnah, and on the 5th left it for Hydrabad; in a few days cholera appeared among them during their march, and it broke out *progressively* in all the villages on the way, which had been all previously exempt. Its appearance on the 14th at Nussurabad, which like the rest had been previously a healthy district, might with probability be also referred to communication with Jaulnah, as there was much intercourse between the two stations; but the Nussurabad report is silent as to any particular communication.—(Madras Report, *passim.*)

A frequent concurrence of incidents either on the large scale, like the foregoing, or on the small scale, like those mentioned by Dr. Alison in the instance of the British fever, would constitute presumptive evidence of contagion so strong, as not to be shaken by the numerous anomalous facts which have occurred to the medical gentlemen of Hindostan, and which, though apparently quite hostile to the doctrine of contagion, are so perhaps only because we are yet ignorant of the conditions requisite for its propagation. In investigating these anomalies it is proper to take into account a very judicious suggestion of Dr. Kennedy, that it is probably incorrect to apply to the propagation of cholera all the rules deduced from that of the contagious diseases of Europe,—not so much, however, because the Indian cholera in his opinion belongs not to the class of fevers, but to that of nervous diseases,—as because it differs remarkably from the contagious diseases of Europe in two particulars, which must materially influence its propagation, namely, in the exceeding shortness of the attack, and the brief interval which, if it is propagated by intercourse, elapses between exposure and seizure.

5. Several curious instances have been noticed of the preservation of particular districts from the cholera by strict seclusion; but we are not disposed to attach importance to such facts under any circumstances, as they are open to many fallacies; and this objection applies with peculiar force to the instances alluded to, in which no account whatever is taken of these fallacies.

We cannot quit the present topic without remarking, that after all we are far from being satisfied that the cholera of the east is a contagious disorder, and see no sound reason

for the unqualified opinion of Dr. Kennedy. We insist, however, that a *primâ facie* case has been made out by him and others, which ought to lead their successors to more careful inquiry. If the numerous supporters of the opposite doctrine are inclined to find fault with us for placing their arguments in the back-ground, our defence is, that their arguments are in our eyes quite as unsatisfactory as those of their adversaries, if not more so; and that as a positive is always more easily established than a negative fact, and the positive side of the question is that upon which sanitary measures must in the meantime be taken, it appears to us more important to look towards that side of the question in endeavouring to point out by what means the truth is to be discovered.

We have left ourselves little room for noticing Dr. Kennedy's exposition of his opinion respecting the pathological cause of this still mysterious disorder. The subject has been discussed at considerable length in our review of Dr. Annesley's work, (xxv. 173;) on which occasion it appeared that the pathologist was left very much in the dark,—that some supposed the disease to be nothing else than a variety of inflammation,—that others conceived it to depend on a peculiar nervous affection of the alimentary canal, without inquiring whence that affection originated,—and that others were inclined to think it arose from a peculiar state of the blood induced as an epidemic constitution, and tending when at its height to relieve itself by the evacuations which characterize this malady. Dr. Kennedy advances a new doctrine, and states it explicitly,—namely, that "the collapse in cholera is induced by concussion of the brain produced by some unknown cause, and that the purging and vomiting are sanitary processes." (p. 117.) The line of argument by which he supports this doctrine, and which is much too extended to receive justice from such an analysis as our limits will admit of, is shortly the following. There is no doubt, he says, that an affection of the brain may produce a state perfectly analagous to the general collapse which forms the first and sometimes the only stage in the epidemic cholera. Of this he has mentioned some very striking instances, which came under his own notice in persons of an epileptic tendency, and in which the fit seemed to be constituted by an attack of collapse alone. It is likewise illustrated very clearly in the first effects produced by the poisonous snakes, whose poison, he thinks, always operates on the brain in the first instance. And it is farther shown in the well known effects of fear, which in aggravated cases resemble entirely the collapse of the first stage of cholera. This state being once produced in the way alluded to, many facts, he maintains, tend to prove, that nature frequently attempts to relieve it by evacuations from the alimentary canal, which are sometimes excessive. The ordinary effects of fear, which we need not particularize from one example in point; in some circumstances, (as in a very striking case which he witnessed of sudden and excessive fear, caused by a narrow escape from falling down from a high tower,) the successive phenomena are precisely those of cholera; and another example is occasionally furnished by the epileptic fit, which he has seen terminate in a profuse discharge from the stomach and intestines, sometimes like that of melæna, at other times almost the same as that of the Indian cholera. A peculiar affection of the brain, therefore, analogous to that caused by violent fear, epilepsy, and concussion, and arising from the action of a morbid poison imbibed into the system, is, in Dr. Kennedy's opinion, the pathological cause of the epidemic cholera; and the evacuations which form the most striking feature of the disease in the generality of instances, and which have consequently led many to believe that the disorder is a local derangement of the stomach and intestines, are nothing more than the result of the mode in which nature endeavours to relieve herself from the state of collapse which the affection of the brain induces. All we can be expected to say of this theory, is, whether it accounts for the phenomena, and leads naturally to what has been found the most effectual practice; and there can be no difficulty in allowing that in both respects his theory is a good one.

MODE IN WHICH THE SYMPATHIES BETWEEN THE EAR, AND OTHER ORGANS, ARE EFFECTED.*

Different sounds produce pleasant or unpleasant sensations, and operate powerfully on the animal and vegetative functions. Very strong sounds, or sounds of a certain kind, produce very singular and striking effects in persons whose nervous system is easily excited. The celebrated Bayle always fell into convulsions on hearing the fall of water from a pipe (*Esprit des Journaux*. Nov. 1793); and Rousseau states, that he knew a woman who could hear no kind of music without being thrown into convulsive laughter. Tissot also relates the case of a person, in whom the sound of music brought on epilepsy. Sounds not only put the brain in activity, in consequence of their action on the auditory nerves, but they exert also an immediate influence on the auxiliary nerves of the ear derived from the fifth pair, by which different organs of the head are brought into sympathy. A violent sound sometimes causes a sudden and involuntary closure of the eyelids. Some persons complain of a peculiar sensation being produced in the teeth by the rubbing and cutting of glass, which is commonly called putting the teeth out of edge. These, and similar appearances, can only be explained by the communication between the chorda tym-

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*Tiedemann's and Treviranus's Zeitschrift fur Physiologie. Vol. II. Part I. p. 273.

pani, and the branches of the fifth pair. There are also other phenomena, which show that the organs of vegetative life are affected by certain sharp sounds, and which can only be explained by the connexion of the chorda tympani, with the branches of the glosso-pharyngeal nerve distributed to the tympanum, and of the sympathetic. Paullini* relates a case of a man who invariably vomited on hearing music; and Pechlin† makes mention of a person, in whom the mechanical irritation of the external ear caused vomiting. It is also well known, that persons of weak nerves sometimes become faint by the tunes of the harp; and there are several instances on record, of the respiratory and urinary organs being affected by a similar cause.

As the ear is connected with the sympathetic, it not unfrequently happens that in primary affections of the abdomen, this organ also suffers. This can only be explained,‡ by the connexion of the sympathetic nerve with the glosso-pharyngeal. Sand mentions§ the case of a person with an ulcer at the bottom of the stomach, who complained of a pain extending from the stomach to the left ear. Difficulty of hearing, and complete deafness, are sometimes produced by affections of the abdomen. To this cause belongs the periodical deafness which comes on with spasms of the abdomen and intermittent fever, and again disappears. Wardrop‖ mentions the case of a child labouring under intestinal worms, who became amaurotic, and nearly lost the power of hearing; the functions of both senses were restored after the expulsion of the worms. Sometimes, also, difficulty of hearing, and deafness, come on during pregnancy, and disappear after delivery.

Sympathies of the Organ of Smell

In none of the organs of sense do we perceive such considerable branches of the sympathetic as in the organ of smell, and in none are these branches so immediately exposed to external influences as in this. The odorous particles do not only excite the brain by the propagation of the irritation through the olfactory nerves, but they act at the same time (or, at least, some of them) on the lachrymal and salivary glands, the organs of respiration, the heart, and stomach. Even the organs of generation are affected by certain smells. The action of the odorous substances which produce a flow of tears, can be explained by the connexion of the nasal nerves of the first branch of the fifth pair with the nerves of the lachrymal glands. Several odours, particularly those which are pungent, increase the secretion of the saliva. Whytt* observed, that the spirituous tincture of rosemary caused this appearance, which also admits of explanation, by the connexion of the auxiliary nerves of the nose with the nerves of the salivary glands.

The action of the irritated organ of smell, on the respiratory apparatus, is very remarkable. All pungent and volatile substances, which considerably irritate the mucous membrane of the nose, produce great excitement of the muscles of respiration, and, by their convulsive action, the act of sneezing. In this case, the primary irritation of the mucous membrane is continued by the nerves of the nose, derived from the fifth pair and spheno-palatine ganglion on all the respiratory nerves, viz. the portio-dura, the eighth pair, the accessory nerves of Willis, and the phrenic nerves, which are all connected with the fifth pair, on the sympathetic nerves. Some physiologists, as Haller, Whytt, Meyer, and others, certainly considered sneezing as an effect of an unpleasant sensation, produced by the irritation of the olfactory nerves, with a retro-action of the brain on the muscles of respiration. The case, however, which came under G. R. Treviranus's† notice, decidedly tells against this opinion: a young man, in whom the sense of smell had been wanting from his birth, sneezed on taking snuff. Here the sensorium, in the absence of the sense of smell, could have taken no part in the sneezing. Sneezing is preceded by a peculiar tickling feel, which extends from the fore to the back part of the nose, and even to the præcordium and diaphragm. This is followed by a deep and almost convulsive inspiration, accompanied with an inclination of the head backwards, which appears to be caused by the irritation of the accessory nerve of Willis; this is succeeded by a rapid and powerful expiration. The effects of smells on the heart, are produced by the action of the nerves of the spheno-palatine ganglion on the sympathetic, and the branch of the par vagum, which supply the heart.

Very offensive smells cause nausea, and sometimes actual vomiting, an effect which can be explained by the communication between the eighth pair and sympathetics. Boyle‡ mentions the case of a strong man who vomited on smelling coffee. Wagner§ knew a person, in whom vomiting was always excited by the vapour from boiled crabs.

The action of smells on the genital organs is well exemplified in mammalia; the males of many species are greatly excited by the scent of the female; for the production of this in most animals, there are glands situated at the entrance of the vagina.

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* Observ. Medic. cent. 4. obs. 71.

† Obs. Physico-Medic. Lib. 2. Obs. 45

‡ De Nervi Sympathetici Fabricâ et Functionibus, p. 137.

§ Disser. de raro ventriculi abscessu in Haller. Collect. Diss. Pathol. Vol. III. p. 128.

‖ Essays on the Morbid Anatomy of the Eye. Vol. II. p. 183.

* Nervorum Affectiones. Vol. I. p. 264.

† Physiologische Fragmente. Th. 2. S. 210.

‡ De insigni efficaciâ effluviorum, p. 54.

§ Hufeland's Journal. Vol. XXXIII. Nov. p. 70.

The organ of smell, like the other senses, is in its turn acted on by the digestive organs and intestines, of which numerous instances might be adduced.

Sympathies of the Organ of Taste.

The tongue stands in close connexion with the salivary glands. Irritation of the tongue by any strong substances, produces an increased secretion of saliva; this takes place by the irritation being continued from the twigs of the third branch of the fifth pair to the nerves of the salivary glands. Further, there is a striking sympathy between the tongue, palate, and nose. If strong mustard be put on the tongue or the mucous membrane of the palate, a tickling sensation is produced in the septum of the nose. This is effected by the naso-palatine nerve of Scarpa. This nerve, a branch of the spheno-palatine ganglion, proceeds in the membrane covering the septum of the nose, penetrates through the anterior palatine foramen, or the canal behind the incisor teeth, and is distributed to the mucous membrane of the nose. In this nerve there is a small ganglion discovered by H. Cloquet. Lastly, the tongue stands in very close connexion with the stomach, by means of the communication between its nerves and the eighth pair and sympathetics.

The state of the organ of taste is, on the other hand, very much affected by a disturbance in the functions of the stomach and intestines. In persons affected with dyspepsia, gastritis, and bilious fevers, the tongue is foul, being covered with a white or yellow coat, and the taste of meat or any nutriment is bitter. During pregnancy, the tongue is also affected.—*Lancet.*

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OBSERVATIONS ON THE ANATOMY OF THE NASAL PART OF THE LACHRYMAL APPARATUS. By John Reeve, M.R.C.S.

It is intended by this paper to show that the absorption of the tears by the puncta lachrymalia, and their passage through the lachrymal canal, does not take place, as has been hitherto supposed, by means of any inherent power in the ducts themselves as stated by Richerand; or by what is termed capillary attraction, as affirmed by other physiologists; but simply by means of that well-known principle in hydraulics by which liquids rush to fill any vacuum which may be formed in their immediate vicinity.

It will be observed, that the subject itself has as yet been but slightly adverted to; and even Magendie, in the last edition of his Physiology, has left it completely in the dark. To render this the more apparent, I shall take the liberty of quoting the following passage:—

"Les larmes qui ne s'evaporent point, ou qui ne sont point absorbées par la conjonctive, sont absorbées par les conduits lachrymaux, et transportées dans le méat inférieur par le canal nasal. Comment se fait ce transport, on l'ignore. On a voulu tour-à-tour en donner l'explication par la théorie du syphon, des tubes capillaires, des proprietés vitales, &c. &c.; ces explications sont incertaines.* L'absorption des larmes par les points lachrymaux n'est bien évidente que lorsque les larmes sont très abondantes, ou qu'elles voulent dans les yeux; mais alors elle se fait avec une telle promptitude qu'elle oblige presque immédiatement à se moucher: cet effet se remarque au théâtre, dans les instants pathetiques."

It is obvious from this, that the opinions which have at present been advanced on this subject are but matters of mere conjecture, and not founded on a correct knowledge of the structure of the parts.

Before I proceed to give an account of that part of the lachrymal apparatus to which the contents of the present paper more immediately refer,—I may, perhaps, be allowed to remark, that a minute anatomical description (without a reference to good plates or preparations) is always, in a greater or less degree, difficult of comprehension, generally requiring a second perusal to be fully understood: its accuracy, nevertheless, can be vouched for, the same appearances having been presented in nine different subjects.

The Nasal Duct will be found to terminate beneath the inferior spongy bone, in the following manner:—A web of dense membrane extends from the inferior spongy bone to the superior maxillary bone, immediately below the nasal duct, and forms the roof of the inferior nasal fossa: in the middle of this membrane there is a circular aperture, by means of which the duct communicates with the nostril, its diameter being considerably smaller than that of the canal immediately above it. The membrane, in which this orifice is situated will be observed to be in a somewhat oblique position, its anterior being rather lower than its posterior part; so that if pressure were applied from behind, it would force that part of the membrane in which the orifice is situated against the superior maxillary bone. At about a line and a quarter, or the tenth part of an inch, above this external opening, there is attached to the outer part of the nasal canal a delicate valve, which appears to be formed of a fold of mucous membrane; and directly beneath it, a small sacculus or enlargement of the canal, such as we find *above* the valves in veins: by holding the opening of the nasal duct in a strong light, and searching carefully with the pointed extremity of a probe, this valve or fold of membrane, of which I have spoken, may be rais-

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* "L'explication de l'absorption des larmes par la capillarité des conduits lachrymaux, est celle qui réunit le plus de probabilités en sa faveur."

ed from the anterior and outer side of the canal; and it will be the more readily seen if the external opening be previously a little enlarged. This valve, although so thin, is yet of considerable density; and if a blunt-pointed probe be passed in a direction upwards and forwards, it will be found firmly to resist its further progress.

We come now to consider the functions of this structure; and it must be particularly remarked, that the direction of the current of air, both in inspiration and expiration, but more especially in the latter, will be considerably altered by the shape of the inferior meatus.

We shall now suppose the act of inspiration to take place, during which process air will be drawn from all points towards the rima glottidis, principally from the external air, from all the meati of the nose, from the antrum, from the cavity of the tympanum, and *from the lachrymal sac;* thus will the lachrymal sac be emptied of its contents, or at least partially so, be they air, mucous secretion, tears, or the whole combined. On the contrary, during expiration, the air, rushing from the lungs through the passages of the nose, strikes against the membrane forming the upper boundary of the inferior meatus,—and which, I have before said, was placed somewhat obliquely,—presses it against the anterior and outer part of the superior maxillary bone, and thus closes the aperture of communication, the valve being, I believe, also raised by the small quantity of air which may have passed the external opening. By these means the sac is uniformly kept in a state approaching to vacuum, it being emptied by the act of inspiration; whilst, during expiration, it is prevented from again filling, by the closure of its orifice.

It must now appear evident, that the tears which are in contact with the other minute openings of the sac (viz. the puncta lachrymalia) must be drawn into them, that they are unceasingly rushing to fill the void, and that, were there no tears to be absorbed, there would be a constant current of air passing through the lachrymal canals and sac from the eye to the nose.

Having thus briefly explained the manner and the means by which I suppose the absorption of the tears to be effected, I will conclude by giving a few of the reasons which led to the consideration of the subject, and which may also tend, in some measure, to support the theory advanced: this is the more necessary, since there is no direct proof of its truth, either by experiment or otherwise.

Supposing, then, the principle of capillary attraction to have place, where would exist the necessity for that very considerable enlargement in the lachrymal canal which is termed the sac? One would infer, that the continuation of the same-sized tube from the eye to the nose would have been all that was necessary. On the contrary, an enlargement or cavity in this situation is as requisite to the perfectability of the present theory, as is the bulb to a blow-pipe; in the one, a continued stream is passing out—in the other, passing in: it serves to give a regularity to the process which could not have been otherwise obtained; for had the canal been of one uniform calibre throughout, the tears would have been drawn into the puncta in jerks.

How is it, that when the nostrils are compressed, and the air driven forcibly from the lungs, as happens in blowing the nose, that the sack does not become distended, and the tears forced back again through the puncta lachrymalia? If the nasal duct terminated, as it is said to do, by a common round orifice only, this would certainly be the case,—nothing could prevent it. Other cavities, which communicate with the air-passages by common openings, are, under similar circumstances, distended by air,—as, for instance, the cavity of the tympanum; but with regard to the lachrymal sac, in its healthy condition, this never occurs, and the reason appears to be this: when we compress the cartilages of the nose, and drive the air forcibly into the nostrils, the oblique membrane, in which the opening to the sac is situated, *must* be pressed very forcibly against the superior maxillary bone, much more so than in a common expiration, and the valve also would probably be more raised, forming a complete barrier to the progress of air. The structure of the sac should also be noticed, —that it is fibro-cartilaginous, of considerable thickness in its parietes, and partly surrounded by bone, effectually preventing the effects of atmospheric pressure, which would otherwise have a tendency to make its sides collapse.

Amongst other reasons which might also be enumerated, is the constant sobbing which takes place towards the conclusion of a paroxysm of tears, the act of sobbing being nothing more than a forcible and convulsive inspiration through the nose, by which the lachrymal sac is completely emptied, and the tears consequently made to pass more rapidly through the puncta.

I may here conclude by observing, that, supposing the appropriate structure of the parts were left unconsidered, still, as air during an inspiration is drawn from all points towards the larynx, it may naturally be inferred, that it is so from the lachrymal sac; and we have proof positive that it does not re-enter, or the tears must, by a forcible expiration, be again driven back through the puncta. Admitting this, the absorption of the tears through the medium of a vacuum may, perhaps, be considered as established; indeed, supposing that the peculiar structure at the termination of the nasal duct in the nose were injured or obliterated by the introduction of a style or canula, yet the sac would be exhausted as usual (though it would again fill as soon as inspiration had ceased,) and the absorption of the tears go on, although in a lame and irregular manner, and liable to interruption from blowing the nose, sneezing, &c. &c.

From the Medico-Chirurgical Review.

ANEURISM OF THE ARTERIA INNOMINATA*.

Mr. Wardrop has applied the principle of "ligature beyond the tumour" to aneurism of the innominata. This is a bold step, certainly, we only hope that it may prove as fortunate; but we shall reserve what remarks we have to make, until we have laid an abstract of the case before our readers.

Mrs. A. æt. 45, presented on the right side of the neck, an unnatural throbbing, which, on examination, was found to be owing to a pulsating tumour, the size of a turkey's egg, its base situated beneath the upper part of the sternum, and its apex rising on the inner side of the sterno-mastoid muscle. The pulsations were strong and synchronous with those of the heart—though compressible, it could not be entirely emptied, and the firmest pressure on it diminished, but did not arrest the circulation through the subclavian. This side of the neck was much less plump than the other; which in the situation of the sterno-mastoideus was more prominent than natural. No pulsation in any of the branches of the *right* carotid; very vigorous in those of the *left*. The trunk of the right carotid did pulsate very perceptibly, but this appeared to be from the impulse communicated by the tumour. Examination by percussion and the stethoscope discovered the *bruit de soufflet* for a confined space under the clavicular edge of the sterno-cleido, but no other disease in the chest. She was subject to severe pains on the *left* side of the head and neck, with a disagreeable swelling in the tumour. She had at times *great dyspnœa, increased on the slightest motion, almost to suffocation*, and obliging her to use a high pillow. Nights restless and disturbed, the patient sleeping but for a short time, and being often obliged to get out of bed. Aspect anxious, pale, and sallow; great loss of flesh; pulse frequent, full, and throbbing.

"The disease had commenced eleven months previously, with difficulty of respiration, cough, and severe pains in the chest, head, and neck." Five months afterwards, she accidentally observed a throbbing tumour above the sternum, which in three months had decidedly increased. She was put upon digitalis, frequent small bleedings, low diet, and perfect rest, with temporary good effect, but during the last three weeks the increase of the tumour, as well as of the dyspnœa, cough, &c. had been rapid, and within a few days the apex of the swelling had become painful. Pressure to the humeral artery was applied, but the patient could not bear it for any time. Mr. Wardrop, considering under these circumstances, that medical treatment was pretty hopeless, and taking into the account the apparent obliteration of the carotid, determined on trying the subclavian artery. Accordingly on the 6th of July this was done.

It is scarcely necessary to go over the steps of the operation but we may mention, that great advantage was derived from placing a semi-cylindrical block of wood under the patient's neck—that two incisions were made through the integuments, one parallel, to the clavicle, four inches in length, and the other parallel with and immediately above the edge of the clavicular portion of the sterno-mastoid, that instead of dissecting back successively skin and platysma myoides, and cervical fascia, these parts were cut through at once, and the incision carried as deep as the fibres of the sterno-cleido, thus exposing the supra-clavicular space, and dividing but once the numerous veins and arteries that lie here, the bleeding from which was inconsiderable. The operation was completed with a blunt edged silver knife, and seems to have been performed by Mr. Wardrop with his accustomed dexterity and despatch. The pulse at the wrist ceased immediately, and there was great relief to the breathing, which for the preceding twenty-four hours had been unusually difficult. The head also was relieved, and though the size of the tumour was not perceptibly diminished, the strength of the beating was. In twenty-four hours, a slight pulsation appeared at the wrist, and has since continued. The arm did not become either numb or cold, and by the 12th July, the date of report, she had not experienced any pain in the wound, which was discharging a little pus—there had been no febrile excitement—the relief both to the breathing and pulsation had been permanent, and in short she was going on extremely well.

In No. 206 of the Lancet, the case is followed up. The patient has gone on uniformly well, the wound united almost entirely by the first intention, and on the 22d day, the ligature came away. The tumour is much diminished in size—she has no pain in the head, cough, or dyspnœa, and she can ascend stairs with comparative ease. The patient is at present in the country for the re-establishment of her health, but proposes returning to town in the course of two months, when Mr. W. promises us the further details of the case. We forgot to mention that on the ninth day after the operation, a pulsation appeared in the right carotid artery giving rise to a variety of conjectures, which seem to us any thing but plausible.

Remarks. We have now to make a comment or two on this case, though it may appear somewhat daring in us, who are but little men, attempting to break a lance with a gentleman of the *calibre* of Mr. Wardrop.

We do venture to prognosticate then that this is another case of dilatation only of the artery, and further, that this dilatation is, in all probability, not confined to the innominata, but implicates the arch of the aorta, if the

* Case where the subclavian artery was tied in an aneurism of the arteria innominata. By James Wardrop, Esq. &c. &c.—*Lancet.* No. 202.

heart itself be free from disease. What were the first symptoms experienced by the patient? Why "difficulty of respiration—cough —and severe pains in the chest, head, and neck," all which obtained for full six months before the appearance of any local swelling or pulsation. Are these the symptoms of incipient aneurism of the innominata and of that *only?* The answer we imagine is obvious. But passing by the *history* of the complaint altogether, let us look at the patient as she presented herself to Mr. Wardrop. Their was a pulsating tumour, the size of a turkey's egg in the right side of the neck, which *could be nearly emptied of its contents by pressure.* With this tumour, no larger than a turkey's egg, the patient's health was suffering greatly—the countenance was sallow, anxious—the nights sleepless—the dyspnœa such as to threaten suffocation, even on the slightest motion. Are not all this distress and dyspnœa quite out of proportion to the size of the tumour? We think there can be no question about it. We asserted that the tumour was not a *true* aneurism, and for this reason, that it was so far compressible as to admit of being nearly, though, (of course, considering the deep situation of the vessel) not entirely emptied of its contents. It is unnecessary to state that, if it were bonâ fide an aneurismal sac, built up with layers of coagulum and fibrine, this could not be the case to any such extent; besides, the history, progress, and general characters of the case bear an exact resemblance to those dilatations of the larger vessels, particularly the aorta, innominata and carotids, which are so frequently met with in elderly females.

It may be said, "then the operation was not justifiable?" but softly, "my masters," we are not so sure of that. Here is an old lady, suffering excessively, and affected with a disease which must, sooner or later, run on to her destruction. She has horrible dyspnœa, which, though not entirely dependent on, is evidently kept up by, the local tumour. Under these circumstances, it becomes a question, and a very fair one, whether you shall not give her present relief by an operation, though you should ultimately fail, or even accelerate her fate. We are not as averse as some are, to desperate remedies; and if the pros and cons be *fairly* stated to a patient, and he or she wish that "something should be done," we know of no good reason why a surgeon should refuse to do that "something." This, however is a delicate point and we leave it to abler heads and *hands* to decide.

This paper was just in the hands of the printer, when we noticed a direct confirmation of the opinions it expressed, in a letter from Dr. Barry to Mr. Wardrop, published in No. 208 of the Lancet. Dr. B. was requested by Mr. W. to see the patient which he did, at her own house, on the forenoon of the 6th ult. in the presence of her husband. The results of his examination by the stethoscope and otherwise, are communicated in the above-mentioned letter. We cannot insert more than the Doctor's *diagnosis* and *prognosis*, which we shall give in his own words.

"*Diagnosis.*—From the impulse felt under and below the right clavicle, and from its absence in the præcordial regions, the impelled body must be situated above the base of the heart. From the situation of the tumour from the results afforded by percussion, the arteria innominata must be considerably dilated. From the wheezing, (rale sibilante,) from the impulse synchronous with the pulse, from the '*bruit de scie,*' the aorta within the pericardium, and at its arch, is most probably dilated, and presses upon some of the bronchi. The regularity of the motions of the heart, and the total absence of palpitations, would seem to show that the valves are perfect. From the increased size of the left carotid, and from the absence of pulsation in the right, I would say that the former is uniformly dilated and the latter obliterated, or nearly so.

"*Prognosis.*—From all the above considertions, and from others not strictly mechanical, I would say, that this case must terminate fatally, but perhaps at a very distant period, and that no operation on the *right carotid* can be of service." 656.

Here, then, we can see that Dr. Barry has confirmed, by the stethoscope, what we had only surmised from the history and symptoms; to wit, that the innominata is dilated, and that the aorta, within the pericardium, and at its arch is probably dilated also. Want of space compels us to defer the consideration of the operation itself, ligature of the subclavian, to some future opportunity.

IRITIS.

The following cases of syphilitic iritis were admitted, under the care of Mr. Lawrence. They are introduced to show the plan of treatment adopted by that gentleman, and the degree of success which invariably attends it when employed in the early stages of the disease.

Case 1. Anne Cornwall, æt. 19, of a full habit, florid complexion, and having naturally blue irides, was admitted into Patience ward, on the 1st of June, with syphilitic iritis of both eyes; papular eruption over the body, and superficial ulceration of the tonsils.

Five months ago, she had gonorrhœa, succeeded by an eruption on the forehead, shoulders, and extremities. In two months from the period of admission, she was discharged, having no remains of the disease.

The gonorrhœa returned.

June 1*st.* A slight vaginal discharge, together with an eruption of small papulæ over the body, and slight superficial ulceration of the tonsils, were discovered. A fortnight ago her eyes became red, painful, and watering; she had pain in the back of the head and across the brows, which was most severe at

night. The conjunctival vessels in each eye are partially injected with blood; those of the sclerotica are greatly distended, and form a pink zone around the cornea. A large and distinct mass of lymph, of a rusty, or reddish-brown colour, covers about one third of each iris; the rest of its surface having assumed a dull and muddy appearance; the inner circles of the irides are of a rusty-brown colour, and their pupillary margins thickened; the pupils are very much contracted, and fixed in the centre of the iridis; the corneæ are hazy, and the eyes have a very inanimate appearance; there is slight intolerance of light, and increased lachrymal discharge. She has little pain, except at night, when it is severe. Vision is very dim; it is with much difficulty she distinguishes large objects; the pulse is increased in frequency; the tongue foul.

C.C. ad ℥xvj. temporibus. Hydr. submur. gr. iij. Jalapæ, gr. x. statim. Cal. gr. ij. Opii, gr. ½, 6ta quaque hora. Moistened extract of belladonna to the brows for an hour night and morning.

2*d.* Considerable pain last night in the head and eyes; no alteration in other respects.

Hirudines xx. oculis.

4*th.* Mouth a little affected; the lymph is diminished, and the pain nearly gone.

Hirudines xviij. temporibus.

5*th.* Mouth very sore; great improvement in every respect.

Intr. cal. et opium.

6*th.* Lymph completely absorbed; redness gone; natural colour and appearance of the irides restored; vision perfect; pupils largely dilated by the belladonna; so that, if adhesions had previously existed, which is very probable, they must have been absorbed. The throat is well, and the eruption much better.

Hydr. submur. gr. ij. Opii, gr. ½, omni nocte. Discontinue the belladonna.

July 2*d.* The eruption has gradually declined, the vaginal discharge ceased, and she is now quite well. Discharged.

Case 2. Daniel Burn, æt. 36; *June* 29*th.*

This patient, who has naturally blue irides, was admitted into the hospital, about seven weeks ago, with an indurated chancre on the back of the prepuce, and suppurating bubo in the left groin. In a fortnight the chancre healed, whilst under the influence of mercury; the bubo was opened, and discharged a quantity of pus; and, in a day or two afterwards, he was made an out-patient. From that time to the present he has taken diet drink only.

June 27*th.* He came to the hospital, complaining of pain in the right eye, and slight intolerance of light. Upon examination, a pale zone, of a pink or rose colour, was observed around the cornea, in the sclerotic coat; the iris a little discoloured, the pupil contracted, and vision somewhat indistinct.

Mr. Lawrence advised him to come into the hospital; he refused, and was therefore, ordered—

Hydr. submuriatis, gr. ij. opii, gr. ½, sexta quaque hora.

June 29*th.* The eye continued to get worse; he again applied at the hospital and was this day admitted.

A discoloration and thickening of the prepuce mark the situation of the original sore.

The conjunctiva is reddened. A broad zone of vessels, of a pink or rose colour, is situated around the cornea, in the sclerotic coat. The iris presents a dull, yellowish green appearance, and has lost its motions. The pupil is much contracted, but preserves its circular form. The cornea is hazy. Vision is much impaired; he cannot read large print. He has great pain over the eyebrow, and in the back of the head, which he describes as very severe in the evening and night, but remitting in the morning.

No other constitutional symptom has made its appearance.

C. C. ad ℥xiv. temp. dextro. hydr. submur. gr. ij. opii, gr. ½, sexta quaque hora. Mist. sennæ c. pro r. n.

30*th.* The eye much easier; mouth a little affected. Pergat.

July 1*st.* A degree of uneasiness coming on in the eye last night, he was again cupped to ℥xiv. from the right temple. The mouth is a little affected. He feels easier. Vision is more distinct.

Cont. cal et opium.

2*d.* Mouth very sore. Vision continues to improve.

Hydrargyri submur. gr. ij. opii, gr ½, octavis horis. Moistened extract of belladonna to the eyebrow for an hour night and morning.

3*d.* Much the same as yesterday. Pupil a little dilated by the belladonna.

4*th.* The external redness is diminished; the unnatural colour of the iris partially removed. He complains of a nocturnal pain over the brow.

Ung. hydrargyri, gr. vj. opii (redacti in pulverem subtilem) gr. ij. ft. Ung. regioni supercilii applicandum hac nocte. Extr. belladonnæ omni mane.

5*th.* Not the slightest recurrence of pain in the brow last night.

7*th.* The mouth continues sore. The eye has resumed its natural appearance. Vision is perfect. The pupil has been dilated by the belladonna; the pupillary margin presents a very irregular appearance in consequence of the adhesions subsisting between its posterior surface and the capsule of the lens.

9*th.* Made an out-patient.

Remarks. Mr. Lawrence considered the former case a most beautiful specimen of syphilitic iritis; and remarked that, whenever the effused lymph presented the appearance which it assumed in that instance, we might at once decide upon the nature of the disease. Nothing but the previous history of the patient could have enabled us to distinguish the latter case from the indiopathic or gouty varieties of the disease.—*Barthol. Hosp.*

From the London Medical and Physical Journal.

CASE OF PERFORATION OF THE BLADDER, *and successive Formation of Calculi.* By P. L. Serph, Surgeon, Welch Pool. (Communicated by Dr. James Johnson.)

Mrs. A., aged thirty-five years, a married woman, having borne a child in 1818, and miscarried in 1821, enjoying general good health till the month of January, 1823, when she was seized with severe pain in the loins, which at the time was supposed to be lumbago, and lasted about fourteen days. In May following, Mrs. A. was attacked with acute pain in the two hip joints at the same time, the severity of which confined her one week in bed, and caused a lameness, which lasted about three weeks; but the pain never went away entirely till the autumn of 1826. In August of the same year (1823) the patient discovered for the first time a small tumour, loose to the touch, but deeply seated in the thickness of the labia pudendi of the left side, which grew till the following month of August 1824, without causing any pain, except during a few days previous to its bursting, which it did about that period, and discharged strumous matter. From this time it never healed, and a constant oozing was kept up from the part.

In March, 1826, Mrs. A. felt for the first time symptoms of irritation in the bladder, and tried various means to obtain relief, but in vain. In November I was called in, and, from the symptoms, suspected the presence of a calculus in the bladder, which the introduction of a female catheter on the 18th of November, proved to be correct. Of course, the first thing to be done was to remove it, and I fixed upon the plan lately adopted by some eminent surgeons of dilating the urethra. I procured Mr. Weiss's dilator, and on the 29th attempted the operation for the first time, and in about twenty minutes dilated the urethra sufficiently to admit the introduction of a finger into the bladder, that I might ascertain with more precision (which I easily did) the situation, &c. of the calculus. I then introduced the forceps usually employed in lithotomy, but could not seize the stone with it, and after three or four fruitless attempts I put it aside; and, having again with my finger brought the calculus forward, I seized and removed it very easily with the common dressing forceps, the branches of which I had previously slightly curved on each other. The stone was of the mulberry kind, about the size and shape of a peach stone. During the dilatation, some small vessel gave way on the surface of the urethra, and a few ounces of venous blood were lost. The patient was put into a hip bath, and an opiate administered. No accident occurred; and the bladder never for an instant lost its retentive and expulsive powers, but it remained very irritable, and Mrs. A. complained of a constant and fixed pain in the left side of the lower part of the abdomen; and a discharge of matter, having a muco-purulent appearance, took place when the urine was evacuated, which was more abundant in the morning, and then of a very fetid smell.

From the above mentioned symptoms, and others incident on ulceration of the bladder, I directed my plans accordingly, and made use of the various remedial means usually employed in ulceration of that viscus, but in vain.

After improving during a short time, the symptoms again became more distressing, and the patient positively asserted that there was another stone in her bladder, but it could not be detected by the sound. On the 6th of May, 1827, the sensations became so similar to those she had felt before the removal of the first stone, that she herself introduced the catheter, and the percussion of the instrument against a calculus proved her judgment to have been correct. On the 7th, I proceeded to another operation, which was very tedious, in consequence of the stone being so extremely soft that it crumbled like half dried mortar between the blades of the forceps; and, having removed every fragment the instrument could detect, I washed away the remaining particles by means of the enema syringe, invented by Mr. Read. I again explored the bladder with my fore finger, and, not being able to detect any other calculus, I flattered myself and my patient with the hope of her obtaining by this last operation a radical cure.

All went on promisingly for a short time, when the pain within the left side of the bladder again returned, and all the former symptoms with it, which became more and more distressing. Early in July the unfortunate patient asserted again that there was another calculus, and submitted to a third operation, which was performed on the 4th instant. Having sufficiently dilated the urethra, I introduced the fore finger of the right hand into the bladder, repeatedly explored its fundus and side, endeavoured to discover if any cyst existed that might contain a calculus, and, never suspecting that a stone could adhere at the anterior and superior part of the viscus, I was on the point of giving up the search, when for the first time a suspicion of the connexion between the fistulous opening on the labia and the os pubis suggested itself, and, turning the palm of my hand upwards, that I might bring the finger towards the posterior surface of the pubis, I immediately detected a rough substance, part of which crumbled under my touch. I endeavoured to loosen the remainder, which was so rough and so hard that I was obliged to desist, from the pain it gave me. I then introduced a lever (something similar to those employed in raising depressed portions of the cranium, after using the trephine,) previously curved to an angle of about 45°, twice fixed it on the hard substance, and applied to it a force much more than sufficient to break it in pieces had it been of a consistency even much harder

than urinary calculi generally are, but all in vain. In the last attempt, a piece of irregular shape broke off, which was of a dark colour, and extremely hard. Between the two attempts with the lever and after the last, I introduced my finger, and, in endeavouring to shake the substance, it felt of that kind of looseness which we sometimes feel in shaking between the finger and thumb some of the morales, which, however, require a great power to extract them.

It appears evident, first, that so long as 1823, the disease began to develope itself in the os pubis of the left side, and that that bone became carious;—secondly, that an abscess formed, which interested externally the labia of that side, and internally found its way through the coats of the bladder within that viscus;—thirdly, that an osseous excrescence, arising from the pubis, penetrated through that opening, and became a nucleus, on the surface of which the calcareous part of the urine was in part deposited, and that concretions were made in the same manner as stalactites are formed; fourthly, that, when the concretion had acquired a certain size, it detached itself, and became a common urinary calculus, loose in the bladder;—fifthly, that, had I succeeded in breaking off the bony process, accidents might have arisen from the contact of the urine with a sound part of the bone.

Now, sir, allow me to ask you and the profession, through your valuable journal, ought the case to be abandoned to nature, except removing out of the bladder the calculi which may be there deposited? what would be the most likely plan to obtain a cure? and what prognosis ought to be drawn from our knowledge of the case? There is not the least doubt that the original cause of the disease was scrofula. I have since the last operation desisted from all remedial means except the tincture of Iodine; and I have the pleasure to say, that she now feels better and much more comfortable than she has done during the last twelve months. Her general health is certainly much improved.

I cannot close this statement without paying a just tribute of praise to the ingenuity of Mr. Weiss, whose talent in executing the plans formed by surgeons cannot be too much commended. I am convinced the use of his dilator of the female urethra will soon supersede every method formerly employed in removing urinary calculi in all cases where females are afflicted with that disease.

Welch Pool, July 31, 1827.

From the Medico-Chirurgical Review.

CASES OF PHAGEDÆNIC ULCERATION.

The two following cases exemplify the efficacy of a local sedative in the treatment of the primary phagedænic ulcer.

Case 1. John Macnamara, æt. 24; of temperate habits, was admitted into Lazarus' back ward the 22nd of June, under the care of Mr. Earle.

Three weeks ago, and about three months after connexion, he perceived a slight excoriation immediately behind the corona glandis, which, not being painful, he was induced to disregard, and pursued his daily occupations. A sore was produced in the situation of the excoriation, which gradually enlarged and became painful. He has made use of no other remedy than local ablution.

June 22nd. An excavated sore, about the size of a shilling, with a ragged and hard edge, and a foul, ash-coloured, and irregular surface discharging a thin sanies, together with a slight degree of redness in the surrounding integuments, occupies the left side of the basis of the glans, and a corresponding portion of the adjacent prepuce. The glands in the groin are not affected. The local pain is severe, particularly at night. Pulse 80, and full—skin hot and dry—tongue white.

V. S. ad ℥xij. hydrargyri submuriatis, Pulveris Jacobi ana gr. v. hæc nocte. Misturæ sennæ c. ℥iss. cras mane. Lotio opii (opii drachmam cum semisse, aquæ octarium) parti affectæ. (milk diet.)

23d. Sore presents much the same appearance, but is free from pain—pulse reduced to 70.

Rep. Hydr. submur. et pulvis Jacobi hæc nocte. Cont. lotio opii.

25th. There is a slight inflammation in the right eye.

Hirudines viij. tempori dextro.

26th. Iritis threatens. The pupil is contracted—the eye painful when exposed to light—the conjunctiva reddened, and a faint pink-coloured zone appears around the cornea. The sore on the penis is destitute of pain and has assumed a more healthy appearance. The bowels are freely open.

Appl. c.c. tempori dextro, et detr. sanguis ad ℥xvj. Extr. belladonnæ supercilio. antimonii tartarizati gr. j. hæc nocte. Cont. lotio opii. cum acidi nitrisci ♏ iij. ad ℥j.

28th. The symptoms of inflammation in the eye have subsided, the foul appearance of the sore has disappeared, and is succeeded by a healthy granulating surface. His general health is good.

Cont. lotio; et mistura sennæ c. pro re nata.

July 3d. The sore is cicatrising rapidly, and not more than half its original size. Pergat.

12th. The sore is healed, and he was discharged cured.

Case 2. John Corbalt, æt. 30; accustomed to live freely, observed a small excoriation on the outer part of the prepuce about a fortnight ago, and a week after connexion, which gradually enlarged, and became very painful. He applied at the hospital, and was admitted into Lazarus' back ward, under the care of Mr. Earle.

June 29th. An irregular and excavated ulcer, an inch and a half by ¾ in extent, with

a hard and elevated edge, a dark, brown, foul, and irregular surface discharging an offensive, thin, and bloody matter, is situated on the fore and outer surface of the prepuce. He complains that it is painful, more especially at night. His constitution is not affected.

Hydrargyri submuriatis, gr. iv. pulveris antimonialis, gr. v. hora somni sumend: (milk diet) let a piece of lint dipped in opium lotion, and afterwards a cataplasm made with the opium lotion, be applied to the surface of the sore.

July 2nd. The foul appearance of the sore is removed, and its surface covered with healthy granulations. The pain arising from it has ceased. The following lotion was directed to be applied to the part night and morning.

Lotionis opii, ℥j. acidi nitr. ♏ iij. M.

8th. The sore is cicatrising. Cont. lotio.

16th. The ulcer has completely healed, and he was discharged, cured.

Remarks. Mr. Earle considered the two former cases, well marked instances of the primary phagedænic ulcer; and as the constitutional disturbance of the former patient was only that which it was thought a general bleeding would remove, and the latter altogether free from it, he conceived that by allaying the irritability of the part by means of a local sedative, the ulcers would assume a healthy character. The favourable progress of the cases has confirmed the opinion Mr. E. entertained.

The following case shows the efficacy of the local application of the concentrated nitric acid; and the mode of treatment sometimes adopted by the surgeons of this hospital in cases of primary phagedænic ulceration.

Anne Wheeler, æt. 45; was admitted into Patience ward the 29th of June, under the care of Mr. Earle.

She was free from disease, when, seven weeks ago, she perceived a small pimple on the inner edge of the left labium, which itched intolerably, broke, became a sore, and spread rapidly; so that in the course of a fortnight, (during which time she drank freely of spirituous liquors and porter,) it had acquired its present size. From that time to the present, (a period of five weeks,) it remained stationary, but gave her very acute pain. She employed no other remedy than simple ablution.

June 29th. An excavated sore, half an inch in depth; with a spongy, foul, and dusky-coloured surface, secreting an offensive bloody sanies; has extended about an inch within the left side of the vagina, and destroyed the left nympha and lower half of the left labium, including a circular portion of the soft parts, about the size of a crown piece, below, and to the left of the vulva. She describes the pain she suffers as excruciating. Her general health is not, however, affected. The surface of the sore to be dried with lint, afterwards freely soaked with the undiluted nitric acid, by means of a piece of lint wrapped round a probe; and then covered with dry lint. To take, immediately after the application, tincturæ opii ♏ xxx.

30th. The application of the acid caused very great pain for about 20 minutes, when it entirely ceased, and has not since recurred. It has produced a slough over the whole extent of the ulceration.

Hydrargyri submur. gr. iij. jalapæ gr. x. statim. pulveris ipecacuanhæ c. gr. x. bis in die.

July 2nd. The slough has separated, and a healthy surface remains. She has remained quite free from pain.

Cont. pulvis ipecacuanhæ c. et capiat mistur. sennæ comp. ℥iss. pro re nata.

5th. The ulcer has a perfectly clean surface. There is not the slightest pain attending it.

Cont. medicamenta.

6th. A small unhealthy spot exists at the superior edge of the sore. Let the application of the acid be repeated, and followed by the administration of thirty drops of laudanum.

7th. The application again gave great pain, which ceased in a quarter of an hour. A small slough is produced in the situation of the foul spot.

Cont. pulvis ipecac. c. et mist. sennæ, c.

9th. The slough has separated, and the whole surface of the sore presents a clean aspect. (Pergat. lotionem opii. Intr. pulvis ipecacuanhæ c.

16th. The ulcer is diminishing in size. Her health continues good. The lotion is discontinued, and the sore dressed with mild cerate. Cont. mist. sennæ c. p. r. nata.

August 7th. The sore has completely cicatrised; her health is good, and she is discharged.

The following is an instance of phagedænic ulceration, successfully treated by the proto-nitrate of mercury, after the failure of nitric acid.

Abraham Perkins, æt. 19; was admitted on the 7th of June, under the care of Mr. Earle; and gives the following history of his complaint.

Four months ago, and a week after connexion, he contracted an indurated chancre on the prepuce, close to the frænum, which was succeeded by a bubo in the groin, and for which he was admitted into the hospital, under the care of Mr. Lawrence. The sore healed completely in a fortnight, but his mouth was not affected; and the bubo was not quite healed, when he was made an out-patient. It completely closed, however, in a week afterwards. He declares most positively that he had not subjected himself to fresh contagion, when, three weeks ago, he perceived a small white pimple in the situation of the original sore, which broke and bled a little. During the four next days it gradually, but slowly increased, and then remained stationary for about a fortnight, at which time, after drinking freely, it became

excessively painful, and spread rapidly up to the period of his admission.

June 7th. The whole of the under surface of the glans and a corresponding portion of the prepuce, including the frænum, are occupied by an excavated sore, the edges of which are hard and well defined; the ulcer presents an irregular, bloody, foul, and dark-coloured surface, and secretes at its edges an offensive sanies. The surrounding parts are painful and tumefied; he is feverish, tongue white, skin hot and dry, pulse quick.

V. S. ad ℥xvj. hydrargyri submur: gr. iij. jalapæ, gr. xij. statim. Misturæ salin: 4ta. quaque hora. Pulv. ipecacuanhæ c. gr. xv. hora somni.

The surface of the sore to be dried with lint; the surrounding parts to be smeared with lard; the sore to be freely soaked with the undiluted nitric acid; dry lint to be applied for a quarter of an hour, and afterwards a bread and water poultice. (Tincturæ opii, ♏ xxx.) Milk diet.

9th. The application of the acid gave great pain, and produced a slough, but has not produced any improvement in the appearance of the sore, or permanent remission of the pain. To have the acid freely re-applied and to take immediately afterwards tincturæ opii, ♏ xxx. olei. ricini, ℥i. statim. Tincturæ opii, ♏ xv. misturæ camphoræ, ℥iss. hac nocte. Cont. mistura ammonia acetatis.

11th. The application of the acid has been equally inefficacious. The ulceration has enlarged, and the pain is very severe.

Pulv. ipecacuanhæ comp. gr. xv. hora somni omni nocte.

12th. He is in much pain; has headach, a white tongue, hot and dry skin, and quick pulse.

V. S. ad ℥xvj. Olei. ricini, ℥j. statim. antimonii tart. gr. j. aquæ menthæ pip. ℥iss. post horas duas et repet. si opus sit. Let the following application be used in the same manner as the nitric acid; the sore afterwards covered with dry lint and forty drops of laudanum administered.

Hydrargyri nitratis, ℥ss. acidi nitrici, ℥j. ♏.

13th. The application produced great pain, which was followed, in 20 minutes, by perfect ease. A slough is formed over the whole surface of the sore.

16th. Has remained perfectly free from pain; the surrounding redness and tumefaction are subsiding, and the slough has separated. He feels weak and low.

Extracti sarsæ, ℥ss. bis die. Cont. pulvis ipecac. c. et mistura salin.

26th. The sore has assumed a perfectly healthy character; the excavation is filling with healthy granulations, and the sore contracting. He is altogether free from pain. Let the sore be dressed with the balsam of Peru upon lint. Cont. medicamenta.

30th. The sore is healing rapidly. (Meat diet.)

July 12th. The ulceration has completely cicatrised, and he is this day discharged.

Remarks. Sloughing phagedæna, as observed in St. Bartholomew's Hospital, seems to be a local affection, produced by inattention to cleanliness, by cold and damp, improper food, and the too frequent use of spirituous liquors. Such causes seem to aggravate so much the consequences of the application of morbid secretions, that a peculiar train of symptoms is produced, which, in their turn, affect the constitution.

When, however, the local affection is destroyed, the constitutional effects quickly disappear. This seems to be effectually done by the nitric acid, which, by penetrating deeper than the other cauteries, more completely destroys the morbid part. After its application the part usually assumes the appearance of a healthy sore; but, if the acid has not been sufficiently strong, or if the ulcer has not been sufficiently soaked with the application, the morbid part will not be completely destroyed; either the whole or a portion of the sore will continue to present the usual unhealthy appearance, and will require another application for its destruction.

When *phagedænic sores* have taken on an unfavourable appearance, it will often be of use to apply the concentrated acid. In these cases, however, the same success will not be obtained as when applied to the sloughing species: in some cases it seems to aggravate the disease, much as in the above case. In these cases the greatest advantage is obtained by attention to the general health, and the local application of an oxyde of mercury, as the black or yellow wash. In other cases of this kind the stimulus of a solution of the unchemical preparation called above, proto-nitrate, is of service. Dr. T. A. Wise informs me that he has seen this last preparation employed with the greatest success at the Hospital of St. Louis, in Paris, by that excellent surgeon, J. Cloquet, in cases of phagedænic ulcers of the throat or nose, (Lupus,) &c. In these cases, by means of a dossil of lint, the ulcer and surrounding redness are washed over with the solution. It gives considerable pain at the time, which goes off in about half an hour. In a day or two a small slough separates, leaving the sore in a healthy state. The same gentleman informs me that he has frequently seen the most severe and extensive ulcers of the throat and nose completely cured after the second or third application of this preparation.

In conjunction with these means, internal anodyne remedies, such as pulvis ipecacuanhæ comp., conium, &c. are employed in this hospital, and generally with great advantage. I have not seen mercury employed for the primary forms of the phagedænic disease; but in those cases where it has been administered to patients previous to admission into the hospital, a most decided aggravation of the symptoms has been produced. In the secondary ulceration it is used, however, either internally in the form of oxymuriate with decoction of sarsaparilla, or externally in the cinnabar fumigation, or yellow wash

(hydr. oxymur. gr. j. liquoris calcis, ℥j.) and with manifest advantage.

The secondary phagedænic symptoms are not confined, as Mr. Carmichael has observed, to the primary phagedænic ulcer. A case is at present in the hospital where they have followed gonorrhœa, and several others have been admitted during the past winter consequent on the same stock of primary infection.—*Bartholomew Hosp.*

From the Edinburgh Medical and Surgical Journal.

1. A TREATISE ON A MODIFIED APPLICATION OF MOXA *in the Treatment of Stiff and Contracted Joints, and also in Chronic Rheumatism, Rheumatic Gout, Lumbago, Sciatica, Indolent Tumours, &c.* &c. Second Edition. By JAMES BOYLE, Esq. Surgeon of the Middlesex Infirmary, author of a Treatise on the Cholera of India, &c. &c. London, 1826.
2. *A Physiological Inquiry respecting the Action of Moxa, and its utility in Inveterate Cases of Sciatica, Lumbago, Paraplegia, Epilepsy, and some other painful paralytic and spasmodic Diseases of the Nerves and Muscles.* By WILLIAM WALLACE, M. R. I. A. &c.&c. Surgeon to the Charitable Infirmary of Dublin, &c. &c. Dublin, 1827.

When a new or unknown remedy is introduced to public notice, or the employment of an old one is revived, it is not merely requisite to describe the benefits resulting from its application. The theory of its operation should, if possible, be understood; the circumstances which indicate its employment should be explained; and it is of the utmost importance to remove whatever prejudices may oppose its just claims to the confidence of the profession.

Moxa which has been long known as a powerful and much used remedy among the Chinese, Japanese, and other oriental nations, but was till lately little known, and less practised in Europe, stands very much in this predicament. Though introduced in 1821 to the attention of his countrymen, by the active recommendation, and supported by the powerful influence of Baron Larrey, its employment is very much confined to the practice of the hospitals of Paris. In this country the use of Moxa is still more limited; and not even in the principal cities can it be said to be a remedy in general, or even in moderate employment. There is little reason to suppose that this results from the small number of cases which require its application. It is very likely that the eastern nations use it too much and too frequently; and it is not improbable that our foreign neighbours are not particularly discriminating in the cases to which they apply it. But cases in which it is admissible, or requisite, cannot vary so much in frequency as to account for the rarity of the use of Moxa in this country. Its merits may not be sufficiently known; or, what will have a similar effect, it may not have sufficiently obtained the confidence of practitioners. If its mode of operation be not understood, many who would willingly give it a trial, would decline the administration of an agent, the action of which they did not comprehend, and consequently, could not rationally explain. In some instances, dislike to innovation, and to the employment of remedies which were unknown or unheeded in the days of their instruction, may tend to operate against the use of the heroic Moxa. Is it inconsistent with the history of science, and the nature of the human mind, to add, that not a few, from feelings of indifference and indolence, are reluctant to employ a remedy, the properties of which are still to be learnt by many experimental essays, and not a little careful observation?

To obviate these, and similar objections against the use of Moxa, is the chief purpose of the two publications here introduced to the attention of the English reader. Though both authors digress somewhat, and wander into discussions a little remote from the line of inquiry; yet with both, the principal object may be said to be,—to investigate and explain the physiological action of Moxa, to describe the several methods best calculated for obtaining its remedial effects, and to define the cases, or sort of cases in which it is indicated, and is most likely to prove beneficial.

It may perhaps be questioned, whether either author has succeeded in his undertaking; and perhaps, neither in the work of Mr. Boyle, nor in that of Mr. Wallace, will the scrupulous inquirer find all the information and all the evidence which he wishes to obtain. But if neither of the two works is the best that might have been expected, it may be answered, they are the best that are at present to be found in the English language. Though perfection is rarely attainable at first efforts; it is always desirable to use such information as can be obtained; and the thanks of the profession are justly due to Mr. Boyle and to Mr. Wallace, even for the efforts which they have made to ascertain the properties, and explain the merits of an agent which promises to be an active remedy in the practice of the healing art. In the remarks which are now to follow on their works the order mentioned above shall be observed, without reference to those digressive excursions in which the authors have indulged.

No one need to be told, that the term *Moxa* is of oriental extraction; and that whatever be the sense in which it was originally used; at present it is understood to signify the slow application of heat to the surface of the body, by means of some vegetable substance which burns so gradually as to produce, according to the intention of the operator, any given effect, from simple redness, or vesication, to a complete eschar.

The substances which have been employed for this purpose, vary at different times, and among different nations, according to the fa-

cility with which they may be obtained, or the caprice of the individuals who use it. The Chinese and Japanese use the down of a species of mugwort, (*Artemisia,*) obtained by rubbing the dried leaves between the fingers. The Hindoos are said to use the spungy pith of a species of rush; the Persians, goats' dung, dried and rolled into cylinders; and the Armenians, the agaric of the oak. Among the Ostiaks and Laplanders, the agaric of the birch, or birch-wood itself when rotten and phosphorescent, is said to be the substance principally employed. The Egyptians, it is supposed, were the first who had recourse to cotton; and this substance, under various modifications, has been more or less generally used for the same purpose in Europe.

In modern times, since the subject has attracted the systematic attention of the profession, the number and variety of substances has been somewhat diminished; and the object has been to use the substance most conveniently obtained, to produce the wished for result. Sydenham is said to have employed flax. Baron Percy prefers the pith of the sun-flower (*Helianthus annuus;*) and when this cannot be got, he substitutes cotton impregnated with a saturated solution of nitrate of potassa. Baron Larrey uses a cylinder of carded cotton, unimpregnated and surrounded with linen; and in imitation of this, the general practice, in the Parisian hospitals, is to use calico rolled so tightly as to form a firm cylinder, which is held to the part by a pair of dressing forceps. Mr. Wallace conceives the best cylinders are formed by immersing charpée or fine linen in a solution of chlorate of potass in the proportion of one drachm of the salt to four ounces of distilled water, and by rolling it up, when thoroughly dried, so firmly, that it may afford a perfectly smooth clean section, when divided with a very sharp knife.

On the mode in which moxa operates, the opinions have been various, and not well-defined. By those who were desirous to simplify their views, its action was conceived to be quite analogous to that of the cautery, actual or potential. To this opinion, however, the present authors are decidedly hostile; and Mr. Boyle especially adduces several cogent arguments to show that the peculiarity of its action is destroyed when it is applied as a mere cautery. Baron Larrey, in admitting that its operation was very different from that of the actual cautery, had advanced the problematical notion that moxa appears to communicate with a relative mass of caloric an active volatile principle derived from the burning cotton,—by virtue of which it excites a degree of irritation which is sooner or later communicated to the surrounding and deep-seated parts. Overlooking entirely the imaginary notion of the *active volatile principle*, this opinion evidently ascribes to moxa the qualities of counter-irritation, and refers its good to the effect of the discharge; and in certain circumstances this is indeed the case.

Both Mr. Boyle and Mr. Wallace, however, agree in regarding moxa as a substance which operates in some mode quite different from that of counter-irritation. The former author remarks that it has been "successful in removing painful affections of nerves, where no surrounding or secondary irritation was produced, and where, consequently, discharge, or counter-irritation, could have no particular influence." In his own practice he represents its application to be so mild as not to cause the slightest abrasion of the cuticle, and yet to effect cures in cases in which all the known remedies had failed; and he therefore infers, that counter-irritation or discharge is by no means a necessary attendant on its general employment. So far, indeed, does Mr. Boyle carry this view of irritation and discharge not being essential, that, in the majority of cases, he regards them as positively injurious; and he contends that the formation of an eschar or slough is quite inconsistent with the peculiar and beneficial effects of the remedy. The reasoning of Mr. Wallace is very similar. Moxa, when applied properly, and in appropriate cases, he contends, produces neither inflammation nor discharge; and if it excite much inflammation, he regards it as a proof that it is either not suited to the case, or that it has been incorrectly applied. On many occasions no discharge takes place; but when it does, the good effects of the moxa appear long before the discharge is established.

Having shown, or attempted to show, what is not the operation of the moxa, it remains to examine what is; and on this point it is by no means so easy to come to a satisfactory conclusion. Mr. Boyle, indeed, though he contends that the benefit of moxa is to be ascribed neither to counter-irritation, nor to discharge, no where gives any direct or positive explanation of the mode in which it proves beneficial; unless that it acts as a stimulant to the absorbents; and the only proof which he adduces of this opinion is, that chronic swellings, after two or three applications, scarcely causing discoloration of the skin, though previously obstinate, begin to subside rapidly. Mr. Wallace, on the other hand, gives a view of its action, which, though certainly more explicit and palpable, labours under the disadvantage of not being susceptible of very direct demonstration. The operation of moxa on the human body depends, he maintains, on the heat or caloric disengaged. The effect of heat again is to excite the capillary vessels of a part to contraction by augmenting their tonicity, and, consequently, to diminish their calibre, and increase the rapidity of their circulation (p. 32 and 36;) and he thence infers, that moxa acts like a stimulant, astringent, and local tonic, which powerfully excites the capillaries to forcible contraction and a rapid circulation of the blood conveyed, and which, at the

same time, excites remarkably the absorbent vessels. (46.)

It is reasonable to expect that Mr. Wallace should support this theory with facts and arguments of competent strength and cogency; and it is but justice to admit that he has not been altogether unsuccessful in appealing to facts which are certainly not very dissimlar to the operation of moxa. Thus, he quotes, from the writings of Drs. Hastings and Wilson Philip four experiments in which heat applied in different ways was followed by contraction of the capillaries of the part and increased velocity of the circulation. In a gangrenous ulcer in the leg of a woman the combustion of a moxa cylinder over its surface was followed by evident diminution of the size of the capillaries. In a case of chronic inflammation of the conjunctiva, accompanied with great dilatation of its capillaries, moxa applied over the eye was followed by contraction of the capillaries half an hour after the application; and in an ulcer on the breast of a child, resulting from a burn when the granulations, which were large, pale, soft, and much disposed to bleed, could not be kept down by the ordinary means, a single application of the moxa over them reduced them in the course of one night much below the level of the surrounding skin.

These facts must be admitted, if there is credibility in human testimony, as proofs, that one effect at least of moxa is to diminish the calibre of the capillaries of the part. It by no means follows, however, that the sole and invariable operation of moxa is to contract the capillaries. This contraction, according to the showing of Mr. Wallace himself, is almost an immediate and a temporary effect. The physiological observer, however, not satisfied with this conclusion, inquires into the duration of the capillary contraction, and he finds that it is not only not permanent, but that it is followed by another state which, though not easily described, certainly cannot be said to consist in contraction only. In short, notwithstanding all the arguments with which Mr. Boyle and Mr. Wallace have laboured to overthrow the theory of counter-irritation, it is perhaps still the most convenient and the most consistent with physiological principles that has yet been advanced.

Both authors, perhaps, have allowed themselves to be misled by the idea that discharge is essential to this hypothesis. But it is surely unnecessary to show, that this is quite a mistaken view. Discharge takes place only where the inflammation is so severe as to proceed either to vesication, to suppuration, or ulceration, from the production of an eschar. There are, however, several degrees of inflammation, from the most transient blush up to erythema, more or less permanent, which do not terminate in any sensible discharge, and which may, nevertheless, be sufficiently active on the surface to counteract a moderate or deeper action in the substance of a part. It is farther to be remarked, that the benefit produced by superficial inflammation is in proportion not to the discharge, but to the inflammation or irritative action which results; and this would have perfectly obviated the objections urged by both authors. In short, it is matter of observation, that in the case of eschars produced by the cautery, actual or potential, the benefit results not from the discharge, but from the inflammatory action on which the discharge depends. When this action is over, the benefit ceases; when it is renewed the salutary operation is re-established.

Nor is this view of the operation of moxa confined, as Mr. Boyle and Mr. Wallace contend, to the case in which the remedy is allowed to produce an eschar. It is equally applicable to every degree and every form in which it may be applied;—that is, at least, where any sensible effect at all is produced. The only difference is this,—that in the milder forms, where it is allowed to produce redness only, or vesication, or slight scorching, the inflammation takes place in the part to which the moxa has been directly applied; whereas, when it is allowed to produce a slough or eschar, the inflammation does not take place in this part, because it is entirely dead, but in the contiguous and subjacent living textures, which are thus excited to action in order to remove as it were the portion of dead and foreign matter. The opinion advanced by Mr. Boyle, that in this case the slough forms an obstructing medium, which interrupts the power of the remedy (p. 27,) and prevents the caloric from reaching the seat of the disease, is exceedingly fanciful, and not very consistent with good physiology or pathology either. The caloric, doubtless, cannot penetrate to the seat of the disease through a dead slough; but is it consistent with the laws which are known to regulate the transmission of caloric, to suppose that it will penetrate any better through the living texture? If Mr. Boyle allows physical principles and facts to regulate his conclusions, he will find it difficult to answer in the affirmative. It must be remembered that it is not the caloric, but what the caloric does, that produces the benefit. It is neither the heat which forms the eschar, nor the eschar itself, but the irritative and inflammatory action established at the bottom, and round the edges of the eschar, which is the therapeutic agent. It is needless, however, to dwell longer on this point of the physiological action of the remedy. It is inconsistent with the plan of these remarks to enter into any full investigation of the subject; and it is sufficient, if the reader be informed of the theory adduced by Mr. Boyle and Mr. Wallace, and be aware of the objections to which it is liable.

The mode in which moxa may be applied, varies according to the convenience of the operator, and the effects which it is intended to produce. Mr. Boyle proposes a small brass syringe, the further end of which is provided with a thimble-like apparatus to

contain the moxa, and a valve to allow the escape of the air, apparently for the purpose of exciting it when burning. The instruments used by Mr. Wallace are a *porte-aiguille*, contrived by himself, or a pair of dressing or artery forceps with a screw, a bit of flat silver wire and a blowpipe. The moxa cylinder is enclosed in the silver wire formed into a hoop, the ends of which are grasped by the forceps, and secured by tightening the screw.

On the different degrees in which it is desirable to obtain the effects of moxa in individual cases, Mr. Wallace has bestowed particular attention; and the result of his experience and reflection will perhaps be most properly communicated in his own language.

"It may be used, so as not to cause any injury of texture; in a greater degree so as to produce vesication; and in a still greater degree an eschar, and the eschar may be either deep or superficial; or, lastly, it may be employed in conjunction with the acupuncture needle. These different modes of using the moxa may be distinguished by the terms, first, second, third, fourth, and fifth forms of application.

"The first form of application will answer when the disease is very superficial. It constitutes the objective cautery of the French writers, and is highly extolled by *Faure* in the Mémoires de l'Académie Royale De Chirurgie, Tome xv. 12mo, as a powerful remedy for the cure of ulcers. It may be serviceable in neuralgia, when the nerve is very superficial; or in affections of the joints, when the synovial membrane is immediately under the integuments, as in the case in the knee and wrist. When used, it should be repeated at least once a day, and applied by holding the moxa in the forceps, as close to the part as the patient can comfortably bear; at the same time it should be moved slowly over the surface, backwards and forwards, until its combustion has terminated.

"I seldom have recourse to the second form of application, because it is not so effectual as the third, and it is more troublesome in its after treatment. It may, however, be usefully employed in Tic Douloureux, and to those parts, on which the patient would not wish a cicatrix to be formed. In such cases the moxa is applied by holding it steadily, and as close as possible to the skin, without allowing it to touch it, and until the skin appears white; which appearance is owing to the detachment of the cuticle, and the formation of a blister.

"In a large proportion of cases the superficial eschar will be the best form of application. To produce this eschar, the moxa must be placed on the skin, and allowed to remain on, until the skin appears brown under it; which will, in general, be found to take place, when the combustion of the moxa has extended to the distance of about a line from the skin.

"The deep eschar will be required, when the seat of the disease is far removed from the surface, as in affections of the spinal marrow and of the hip. To form this eschar the moxa must be allowed to remain on, until its combustion is complete; when the part upon which it was seated will be found black, and the surrounding skin slightly red, and wrinkled. In this form of application, it will be sometimes useful to increase the intensity of the heat by the employment of the blowpipe; and when this is thought prudent, the moxa should be, previously to its application, surrounded by a cylinder of card-paper, which will have the effect of directing the current of heat downwards, and prevent its escape laterally.

"When our object is to obtain any of the effects last described, it will be advisable, previously to the application of the moxa, to mark the spot on which we may wish to place it, with a little circle of ink; and in case of using the blowpipe, we should cover the surrounding parts with a piece of paper, having a hole in its centre for the moxa: the paper having been previously wet in a saturated solution of the sulphate of alum, or muriate of soda, and afterwards dried. These solutions diminish so much the combustibility of the paper that it will prevent it from taking fire, in case a spark should be driven off by the blowpipe.

"On several occasions, as for example in paralysis, and some obstinate forms of sciatica, the frequent repetition of the moxa will be required, before the disease is subdued; and the disease is so far removed from the surface, that, to act on it, an eschar must be produced. When the eschars are thrown off ulcers are formed, and where they are very numerous, they cause considerable irritation to the patient, and the discharge produced by them may be more than is suited to the weak state of his system. In these cases the application of the moxa, in conjunction with the needle, will be found a most excellent mode of using the remedy.

"When the moxa and acupuncture needle are used in conjunction, the following is the mode of operating. I perforate a moxa of a proper size by a needle, of such a length, as will be sufficient to reach to the seat of disease, and at the same time extend so far beyond the surface of the skin, as to keep the moxa about one inch from it, or so far as to secure the texture of the skin from injury. The needle is then introduced as far as the seat of disease, by the assistance of the Port-aiguille; and, as soon as it has been introduced, the Port-aiguille is removed, the needle being left in the part. The moxa, which had been previously perforated, should be now placed in a state of combustion on that end of the needle which projects beyond the surface of the skin, and allowed to burn round the needle by which it is thus transfixed. The heat disengaged from the moxa is thus communicated to the needle, and thence conveyed to the seat of disease. When the needle has cooled it is removed,

and the wound or eschar produced by it is scarcely observable." Pp. 69–72.

In the present state of professional knowledge regarding moxa, one of the most important points of inquiry is, to ascertain in what cases particularly its use is indicated, and to determine if there be any particular marks by which the surgeon can be guided in anticipating from its application favourable results.

The first class of affections, and perhaps the one most frequently and generally demanding the application of moxa, is that of the joints, and the articular textures in general. It is not, however, to be supposed that the remedy is, in all instances, in every form, and in every stage of these diseases, equally admissible. In the present stage of the inquiry, indeed, little positive information has been collected on the relative influence which moxa possesses over different affections of the joints; and the exact form of disease to which the remedy is most suitable, is still a subject on which accurate facts are wanting. Mr. Boyle gives nine cases of diseased knee-joint, eight of which were stiff and contracted, in which, after all other means had been tried in vain, moxa was eminently successful in restoring the motions of the limb. So far as can be learned from perusal of the cases, these instances of contracted joint appear not to have depended on chronic inflammation or ulceration of the articular apparatus, but on that species of contraction which is not unfrequently one of the worst effects of rheumatic inflammation. The same view may be taken of the two cases of hip-joint affection, of that of the wrist, and that of the ankle, likewise sketched by Mr. Boyle. So far as is hitherto known, therefore, it is in contractions of the joints, dependent on affections of the extra-articular textures, perhaps the aponeurotic sheaths and tendinous fasciæ, that the action of moxa is most certainly useful.

On the use of moxa in affections of the joints, depending on disease of the intra-articular tissues, neither of the works at present under consideration afford any intelligence whatever; and this is perhaps the more to be regretted, because there is reason to think that it is on the due and seasonable application of moxa to such affections that its chief merit and reputation will depend. Since the structure of the joints has been more accurately studied, and since their affections have become better known, the surgeon is more capable of accommodating the means of cure to the nature of the disease requiring treatment. Inflammation of the synovial membrane may be acute, sub-acute, or chronic, but is more frequently acute than otherwise.

When this action spreads to the cartilages, or originates in them, it almost invariably terminates in ulceration, a chronic process which, if the patient survives, tends naturally to anchylosis. When the inflammatory action, on the other hand, spreads from the synovial membrane to the capsular ligament, chronic disease of a most serious, obstinate and intractable description ensues; the ligament becomes thickened and indurated; the surrounding cellular tissue is extensively infiltrated with a sero-gelatinous fluid; it afterwards becomes hard and granular; chronic inflammation is established in particular spots, and gives rise to tedious and unhealthy suppuration; sinuous abscesses are formed between the tendons and the ligaments; and if the constitution of the patient is not utterly undermined by the pernicious process, his prolonged existence is embittered by the burden of a swelled, inflexible, and useless joint, and an emaciated but cumbersome limb.

It must doubtless be a matter of some moment to ascertain to which of these affections, if to any of them, and to what stage of them, the employment of moxa is likely to be advantageous. In the acute stage of synovial inflammation, or when the disease is of short continuance, the ordinary antiphlogistic means of local bleeding by leeches and cupping will, in the majority of instances be amply sufficient to control the urgent symptoms. It is chiefly when the disease is of some standing, and where the pain, instead of being acute, becoming dull, heavy, and deep seated, denotes the transition of the action to the cartilages on the one hand, or the capsular ligament on the other, that the application of moxa may be expected to be beneficial. When, again, the capsular ligament is chronically inflamed, when the articular cellular tissue is infiltrated with fluid, or when there is reason to believe that the cartilages are undergoing ulceration, then repeated combustion with moxa, to the degree of inducing an eschar, superficial or deep, according to circumstances, may be expected to afford considerable, certain, and permanent relief. It is of no moment which joint be affected, for the remedy appears equally suited to each and all of them. But in general the superficial eschar seems to do best with the knee, and the deeper seated one with the hip-joint. When the knee-joint, however, has proceeded to that state in which the articular cellular tissue becomes infiltrated, the deep eschar is the most useful form of the application.

The next class of affections in which the use of moxa is indicated, is that of the textures composing the spinal column; the intervertebral articular ligaments, the synovial capsules of the superior and inferior articular processes, the vertebral periosteum, and even the vertebræ themselves. After all that has been recently written on the subject of spinal diseases, information is still wanting on the influence which each texture exerts, and on the peculiarities which spinal diseases derive from the more or less considerable affection of any one of the constituent textures. It cannot be said that there is in nature no foundation for this mode of distinction; for every derangement of the spinal column will be found, on attentive examination, to assume

peculiar features, according as the vertebræ, the intervertebral cartilages, the ligaments, or the articular capsules are more or less affected. It cannot be doubted, therefore, that an examination of the comparative influence and curative powers of moxa, in these various forms of disorder, would be an essential service to the practice of surgery. The "inquiry" on this subject, in the work of Mr. Boyle, is by no means calculated to supply this defect; for, from whatever cause it arises, his observations are of that general and vague description, that they give no precise or specific information, either on the peculiar forms of spinal disease, or on the appropriation of remedies to these forms. The present, therefore, may be a good opportunity for directing the attention, not only of Mr. Boyle, but of those practitioners who have leisure and inclination, to an inquiry which, under the views above suggested, promises some improvement to the art of surgery.

Under the present head also may be mentioned another very untractable disease, in which the application of moxa may be expected to be highly advantageous. The tedious and unhealthy suppuration termed lumbar abscess depends in too many instances on chronic inflammation of the vertebræ, causing caries of these bones, and terminating in suppuration of the contiguous parts. But whether this morbid state of the bones, or suppurative inflammation of the psoas muscle and cellular tissue, be the pathological cause of lumbar abscess, it is well ascertained that it is a chronic complaint; that its inflammatory stage is over long before the matter presents itself, either in the back, in the groin, or at the anus; and that the most probable mode of opposing the progress of this formidable disease is by the early use, first, of topical bleeding by means of cupping or leeches, or both; and secondly, by the energetic employment of those agents which, by inducing a permanent superficial vascular action, hold out some prospect of counteracting that which is deep-seated. Among these means it cannot be denied that moxa holds a conspicuous place; and as such, it may be employed with well-grounded hopes of affording at least considerable benefit.

The next class of complaints to which the use of moxa promises benefit, are those instances of obstinate chronic rheumatism which depend on chronic inflammation of the aponeurotic coverings and sheaths of the muscles. In lumbago, sciatica, rheumatic gout, and the whole train of those maladies, equally perplexing to the physician and distressing to the patient, the application promises the happiest effects. Both in the work of Mr. Boyle and in that of Mr. Wallace, especially, the cases of this description, not only relieved, but so far as judgment can be formed from the reports, completely and permanently cured, afford the strongest testimony of the efficacy of the remedy. Several of these cases were of long duration, some for months, and one or two for years; yet in all, the complaints appear to have yielded to one or more applications of the moxa. Though it may not be prudent to trust implicitly to the reported powers of the remedy, and this is said without the slightest doubt of the credibility either of Mr. Boyle or of Mr. Wallace; yet its actual effects, after the failure of other remedies, prove its remedial powers in such cases to be sufficiently great to entitle it to very considerable confidence.

Analogous in some respects are those painful affections referred to the neurilematic coverings of the nerves, under the names of tic douloureux, *neuralgia*, *neurilemitis*, &c. On these subjects Mr. Wallace has made some good observations, and collected several cases of some interest, to which the reader may refer, without the fear of being disappointed. The examples of nervous sciatica are particularly instructive, and bear every mark of being carefully observed, and treated with efficiency and success.

It will not do, however, to employ moxa indiscriminately in all complaints whatever. Baron Larrey states, that he uses it in the treatment of consumption; and Mr. Boyle speaks as if he thought its application to the extent of producing a deep slough might be beneficial. This is the very way to injure the real merits, whatever they be, of any remedy, and to make it be represented as a practice either useless or injurious. When consumptive symptoms are known to depend on the presence of tubercles, which are undergoing the softening process, moxa and all such remedies will be not simply harmless, but directly hurtful, by the irritation they produce, without the chance of giving any relief. There is, however, one form, if not two, of pulmonary disease, in which its use is admissible. When consumptive symptoms depend, as in many instances they do, on chronic bronchial inflammation, or on chronic peripneumony, the employment of moxa, after suitable blood-letting, and with the aid of other remedies, will often tend very powerfully to remove the visceral inflammation. True it is, the operation of moxa in such cases presents nothing specific; and it is in all respects similar to that of a caustic issue, or rather of the inflammation succeeding to the eschar produced by the caustic. But the long superficial action maintained by this means is sometimes remarkably successful in abating cough, relieving oppression and tightness in the chest, in diminishing expectoration, and reducing the pulse to the natural standard. This is often remarkably the case in those instances of long-continued pulmonary disease, in which frequent hemorrhage from the lungs is a prevalent symptom.

The foregoing sketch will, it is hoped, enable the surgical practitioner to form some notion of the degree of reliance which he is to place on the virtues of moxa, and to distinguish the circumstances in which it is most likely not to disappoint his hopes. It is quite possible that its merits may be overrated by such zealous advocates as Baron Larrey, Mr.

Boyle, and Mr. Wallace; exactly as they are underrated or suffered to languish in neglect and oblivion by the greater number of the profession in the British dominions. Enough, however, has been done by the authors now mentioned to show that, under proper management and seasonable application, it may be rendered an efficient and available agent of surgical practice. It remains for the practitioner to follow the example now set him; and, by putting the remedy to the test of experiment, in cases similar to those of Mr. Boyle and Mr. Wallace, either to confirm, to refute, to modify, or to correct the results obtained by these gentlemen. Whatever be the consequence of such inquiry, as to the ultimate fate of the remedy, it cannot be doubted that it can have no other than a beneficial influence on the practice of surgery, and the treatment of surgical diseases, by showing with greater precision than has been hitherto done, where moxa is to be remedial, and where it is not.

From the London Medical and Physical Journal.

HYSTERICAL CATALEPSY.

By John North, Surgeon Accoucheur.

Catalepsy is a disease of such unfrequent occurrence that many highly respectable authorities, and Cullen amongst the number, have altogether denied its existence. The few instances upon record were regarded as examples of credulity on the part of the practitioner; and imposition on that of the patient. It must be confessed, indeed, that many of the phenomena which have been said to accompany this species of nervous derangement are so very extraordinary; that the total scepticism of those who have not themselves seen an instance of the disease may easily be pardoned. The case, of which I am about to give a brief description, was not attended by any of those marvellous symptoms which have been recorded by some writers.* It exhibited, however, many curious changes, and may not be altogether uninteresting as an additional illustration of the variable character of diseases which principally affect the nervous system, particularly when they occur in highly susceptible females.

The impossibility of assigning either a fixed place or title to such diseases in nosological arrangements, must also be sufficiently evident. Hence the various terms which have been applied to this form of complaint by different nosologists. The tendency which all nervous diseases have to pass into each other is well known; and in many other instances, besides that I am about to relate, I have seen such a variation of symptoms in hysterical women in the course of a single day, as would have induced different practitioners to have considered the disease to be either chorea, hysteria, epilepsy, apoplexy, lethargy, or tetanus, according to the particular train of symptoms that happened to exist at the moment of their watching the patient.

Some cases of catalepsy have been related which occurred in men of a highly irritable temperament, but the disorder is certainly much more frequent in females. The same observation will perhaps apply with equal propriety to all convulsive diseases. The different symptoms which are produced in women of a very nervous and susceptible constitution, by either mental or corporeal excitement, must be referred rather to individual peculiarity, than to a corresponding difference in either the predisposing or exciting causes.

Case.—Eliza T., aged twenty-one, had enjoyed a tolerably good state of health up to the period of her present attack. She had always been of a very irritable temper, and occasionally had suffered much inconvenience from severe paroxysms of hiccup, which were presumed to be dependent upon an habitual constipation of the bowels. It was not uncommon for her to pass a week without any evacuation, while in other respects she appeared to be in perfect health. She menstruated regularly, and, from the information I received from her friends, the discharge was of the usual quantity. In the beginning of last March she arrived in London, much fatigued by a long journey, and I have reason to believe in a state of great mental anxiety, on account of some attachment she had formed in the country. A short time after her arrival, she was attacked with pain and swelling of her foot. This was considered to be a rheumatic affection, and was treated accordingly. She then complained of intense pain in the head, and had for the first time slight hysterical paroxysms. She was bled and blistered, and purgatives were freely administered. Her head was also shaved, and cold lotions constantly applied. Each day presented such a transition of her symptoms as to excite some doubt as to the real nature of her complaint, and the opinion of an eminent physician was taken, who regarded the case as altogether hysterical.

In consequence of the removal of the patient to the house of a friend who resided in my neighbourhood, I was sent for to see her on the 30th of March. My attendance was requested as speedily as possible, as she was supposed to be in a dying state. I found her in bed; and apparently in a profound sleep. She had just fallen into this state after a violent fit of hysterics. Not the slightest motion could be observed in any part of her body. No pulsation at the wrist could be felt. The action of the heart was so extremely feeble, that it was distinguished with difficulty; and no motion whatever could either be seen or felt in the carotids. The pupil of each eye was contracted to a very minute point. The temperature of the body was below its natural degree. A glass was held before her mouth, but no vapour could be detected on its surface. Her respiration was not percep-

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* Dict. des Sciences Med. p. 282, tome iv.

tible, for the chest appeared as perfectly free from motion as the other parts of the body. Various stimuli had been applied without effect. I remained with her about an hour, and perceived that she drew a deep but gentle inspiration about every ten minutes, and that there was an occasional slight trembling motion of the eyelids. I relieved the anxiety of the friends by assuring them that the patient would rally from this state, and directed the application of mustard sinapisms to the feet. A stimulating enema was also administered, and I placed four drops of croton oil upon the tongue.

In this state she continued for about twelve hours, when a slight hysterical paroxysm came on; after which she rose languidly from her bed, and complained only of great weakness and pains in different parts of her body. She was perfectly unconscious of every thing that had occurred.

For two days she appeared rather better. Her strength was increasing, and the hysterical attacks were neither so frequent nor so severe. The croton oil acted powerfully upon her bowels. Light tonics were now prescribed, and she was directed to be kept as quiet as possible, both in mind and body.

On the third day, she was suddenly attacked with so violent a trembling of her whole frame as to shake the bed on which she lay. In about half an hour she became perfectly tranquil, and appeared as if she were sleeping. A very violent attack of hysteria, attended with general convulsions, now came on, and it required the exertion of several persons to prevent her from injuring herself. The enema and sinapisms were repeated as before, and purgatives were given by the mouth as soon as possible, as the bowels had again become torpid. As she had not passed any water for nearly twenty-four hours, the catheter was introduced, but only about three or four ounces of very high-coloured urine were drawn off. A copious evacuation of dark-coloured fæces was discharged from the bowels; and on the following day, when I saw her, she complained of nothing more than great languor, and an indisposition to any exertion.

In a few hours after I had left her, she fell into a state of complete stupor, during which the limbs and body appeared alternately under the influence of the nervous power. First the arms were completely extended, and thrown into various positions. The legs were then gradually raised upwards, and remained at their full stretch without support. When these parts became relaxed, the body and head were affected in a similar manner. The attack now assumed all the characters of catalepsy. She resembled a figure of wax, which might be moulded to any form. In whatever position she was put, she remained immoveable as a statue, however awkward and fatiguing it might be. She was, for instance, placed in a sitting position, with her arms in a boxing attitude, and thus she remained until the caprice of the bystanders put her into some other form. One eye was opened to its full extent, the other being at the same moment closed. It remained fixed, and the pupil as perfectly contracted and immoveable as before. The globe of the eye appeared quite insensible to the touch, as did the other parts of her body. On two or three occasions, when the whole body was under this morbid influence she was placed in a standing position, with her limbs in various attitudes which would with difficulty have been assumed, even for a moment, by a person in health, and which certainly could not voluntarily have been supported for so long a time as she remained fixed without the slightest motion. When the muscles were no longer under the morbific influence, or supplied by this irregular distribution of the nervous power, the parts which had been previously extended, or placed in any particular position, suddenly dropped upon the bed in a state of relaxation. From a standing or sitting position, she fell like a person struck down with great violence, and then for some time remained motionless as before. It would be uninteresting to dwell minutely upon the various attacks she had of a similar nature. She continued in this state for about a fortnight, with occasional intervals, during which her mental faculties appeared perfect, but were with difficulty brought into action.

For two or three days afterwards, her malady assumed the form of common chorea. A complete alteration of symptoms then occurred. She was free from convulsive action, and almost completely regained her mental activity. She now complained of great pain in her breasts, which were obviously enlarged, and their whole surface was remarkably hard and tense. The auxiliary glands were also slightly enlarged. Some warm fomentations were applied, and the breasts in the course of the next day assumed their natural appearance.

During the whole progress of the case, every means were adopted to regulate the state of the bowels. This was always accomplished with difficulty; but it may be observed that, at the time of her becoming cataleptic, she had daily evacuations, of a natural appearance.

She was afterwards removed to St. George's Hospital, and during her short stay there I understand the same curious alteration of symptoms occurred, together with a return of the cataleptic state. She is now in the country in a very debilitated state of health, and still suffers from violent attacks of hysteria. Two issues have been inserted in her neck and arm, without any alleviation of her symptoms.

The anomalous and inexplicable symptoms which frequently occur in hysterical females are too well known to require any particular comment; and I am aware that the experienced physician would not participate in the alarm which is always excited by that death-like appearance I have here described, and which so frequently succeeds to violent paroxysms of hysteria. It is now nearly eighteen years ago since I first saw a patient in this apparently hopeless state, and I confess, without hesitation that I imagined, and declared to the friends, that

death would speedily ensue. In many cases which I have subsequently seen, I have known young men compromise their reputation, as I had done, by giving a decidedly unfavourable prognosis, when a more experienced practitioner has declared, without hesitation, that the life of the patient was not in danger. We should not then forget the observation of HOFFMAN upon the subject of hysteria: "Ut valdè terribilis hic videtur morbus, in se tamen non adeô periculosus est." The caution I wish to convey upon this subject can only be necessary for those who are upon the threshold of their professional avocations, and it is to such only that I presume to direct my observations.

Hysteria, of course, like every other disease, may be complicated with some other affection of a more dangerous tendency, and our prognosis must then be modified accordingly. Neither must it be forgotten that confirmed epilepsy, mania, and other very serious consequences, sometimes result from repeated attacks of simple hysteria. But I have neither seen nor heard of any cases of women having died in that state of lethargy and total insensibility which so frequently occurs after violent hysterical paroxysms.

During the progress of hysterical complaints symptoms of local inflammation not unfrequently occur, which are also likely to deceive the inexperienced practitioner. I believe, however, with Dr. MARSHALL HALL, that it very rarely happens that "attacks of hysteria concur with the active inflammation of a vital organ," although nothing is more common in practice than to bleed largely in such cases, from an apprehension of organic disease. It will be found, however, that the acute local pain, of which hysterical women very frequently complain, will speedily subside in most cases without the use of the lancet, or at least by a very moderate abstraction of blood. The pain may be severe for a few hours, but it is rarely fixed. The hysterical patient often complains of intense pain of the head, of the chest, and of the side, in rapid succession. There is scarcely an organ of the body which does not occasionally suffer in the course of this ever-varying disease, but still the symptoms are very different from those of pure local inflammation, although they are frequently supposed to indicate its existence, and to lead to a mode of treatment which is at once unnecessary and prejudicial to the patient. Upon this subject I beg particularly to refer to the ninth chapter of Dr. Hall's recent publication.* I have seen many cases which convince me of the accuracy and judgment of his remarks. In hysterical women there is also very frequently a tenderness of the whole surface of the body, which confirms the suspicion of local inflammation. When there is this state of morbid sensibility to the slightest pressure, the patient will equally complain whether it is applied to the part which has been previously the seat of pain, or to any other part of the body. Several instances of this sort have occurred to me in the course of the last few years.

It is necessary, then, that we should not hastily infer the existence of idiopathic inflammatory disease from the occurrence of the wandering pains of various parts, to which hysterical women are subject. These complaints may, perhaps, be more correctly attributed to an irregular distribution of the nervous influence, than to any inflammatory affection. A constipated state of the bowels is much more common in females than in men. In many instances I have known women, apparently in good health, who had seldom more than one evacuation every third day. To this irregular condition of the digestive organs but little attention is paid, and there can be no doubt that it frequently lays the foundation for hysteria and other nervous affections.

*Dr. MARSHALL HALL on some Diseases of Females. 1827.

From the Edinburgh Medical and Surgical Journal.

RECHERCHES NECROSCOPIQUES, &c.

Necroscopic Inquiries on certain changes which take place after death in the appearance of the Blood-vessels, Lungs and the Pulmonary and Intestinal Mucous Membrane, in the Healthy State. By MM. RIGOT of Alfort, and TROUSSEAU of Tours. [Archives Générales de Médecine.]

It is singular that amidst the general and minute attention which has of late been paid to morbid anatomy in France, and the daily additions which have in consequence been made to pathological knowledge, few have been induced, by the opportunities which that country affords, to institute a connected inquiry into the nature, causes, and characters of pseudo-morbid appearances. It must be apparent to every one, who has had occasion to consult extensively the pathological writings of the French, that they are in general but imperfectly acquainted with this important subject. Nay, it would be an easy matter to show, that the want of a due knowledge of the existence and characters of pseudo-morbid appearances has been in a great measure the cause of the errors of a prevailing sect of Parisian physicians, and of the popularity which their doctrines have attained to. If in our own country the speculations and tenets of Broussais have met with a colder reception, it may be attributed partly to the sound portion of the practice which he has deduced from them having long formed an essential feature in British physic; but it has evidently been also in part owing to a conviction that, in a large proportion of instances, the anatomical derangements referred to as the proof and foundation of the Broussaic doctrines, are really, as MM. Rigot and Trousseau have shown, the consequences of changes effected in the healthy tissues after death.

Even in this country, however, the pseudo-morbid changes, which the different textures of the body undergo after death, have not received the universal attention they deserve. We possess but one good English

treatise on the subject, namely, a short memoir by Dr. Yelloly on one department of it, —vascularity of the alimentary canal, (Med. Chir. Transact. iv.;) and although his remarks have lessened in some degree the laxity of British pathologists in pronouncing upon the existence of marks of disease in the dead body,—much still remains to be done to diffuse correct ideas respecting their imitative or pseudo-morbid signs.

The authors do not lay claim to originality in pointing out the appearances which form the topic of their memoirs: much of what they have stated they acknowledge is to be found in detached notices scattered throughout the works of modern pathologists. But they claim with justice the merit of being the first to lay down determinately the circumstances under which the appearances in question occur, and the causes by which they are produced. The results at which they have arrived are drawn partly from an extensive set of experiments on the dog and the horse, partly from careful dissections of the human subject after diseases in which the organ examined was presumptively in a state of health. We must add that, in their observations on the human subject, they have been anticipated upon many points by an elaborate work by M. Billard on the healthy and diseased appearances of the alimentary canal, a work to which we shall refer occasionally in the present analysis.

The first section of their inquiry treats of *the Redness of the blood-vessels and lining membrane of the heart.* Coloration of the inner membrane of the blood-vessels and heart has been laid down by many recent writers, not only as designating inflammation, but as explaining symptoms antecedent to death. The authors have quoted the works of Frank, of Berkin and Bouillaud, of Andral, and of Tanchou for examples of the kind; others might easily be pointed out in the writings of their countrymen; and though similar statements have not been made in any modern English work, we have repeatedly heard persons of experience and authority in this country make them in actual pathological dissections. The simple fact of the great variety of diseases in which this supposed inflammatory redness has been remarked throws doubt on the accuracy of those who have noticed it; for it has been found in cases of fever, small-pox, peripneumony, poisoning with arsenic, tetanus, hydrophobia, &c. Accordingly, the following analysis of the researches of MM. Rigot and Trousseau will prove that the redness in question is a mere pseudo-morbid phenomenon.

They set out with an account of the healthy appearance of the inner membrane of the heart and great vessels of the horse, as determined by twenty-eight dissections immediately after death. In every case they found the lining membrane of the heart thin, white, transparent, and here and there of a pearly lustre;—that of the arteries yellowish white, and that of the veins more purely white. In two instances only the aorta exhibited a few copper coloured specks. The appearances were not materially different if the examination was delayed till one, two, or four hours after death; and sometimes little change had taken place in five or ten hours, even when the circumstances were favourable to the production of pseudo-morbid redness. But much more generally, both in the horse and in the dog, if the examination was delayed till five, ten, or fifteen hours after death, the inner membrane of the heart and its great arteries and veins were found speckled or streaked with red stains, which, in the arterial system, was scarlet in tint, and in the veins reddish brown.

The cause of these colorations was evidently *dying of the vessels in the fluid part of the blood.* For, in the first place, the very same colour was produced by steeping portions of the vessels in it; secondly, the colorations were found only in the vessels of the more depending part of the body; never, for example, in the vessels of the extremities, if the body was kept lying on the back, with the extremities elevated,—but very regularly in the vessels of the depending limbs, if the body was placed on one side; thirdly, the redness was remarked only where there was blood in contact with the vessels, and the speckled appearance evidently arose from some parts of the coats being protected by the contact of the white, fibrinous part of the blood; and, lastly, the greatest coloration was found when the mode of death was such as is followed by the greatest fluidity of the blood, for example, when the animals were hanged.

In accordance with these unanswerable facts, it will be found, that in the human body the greatest coloration takes place when the blood is most fluid, and that at every red speck or streak a portion of blood is to be found, if accidental causes have not made it shift its place. MM. Rigot and Trousseau have related several pointed cases of the kind, and the experience of every careful pathologist must supply him with daily proofs to the same effect. We may add a fact, which we have thrice had an opportunity of witnessing, that, as in animals, so in man the healthy colour of the inner membrane of the great arteries, for at least an hour and a half after death, is a uniform, faint yellowish white.

In making observations on the coloration of the great vessels, it is necessary to keep always in view the accidental causes which may remove the blood from one place to another in the dead body. Thus, after having stained the coats of the vessels in the abdomen, it may be squeezed out of them by the subsequent dilatation of the intestines with gases, or during the examination to which the parts are subjected by the anatomist; or, after having been propelled by the former of these causes into the chest, it may suddenly recede when the pressure on the abdominal vessels is removed by the cavity being laid open.

The coloration now described is precisely the same as that which has been referred to by the pathologists mentioned above, as furnishing evidence of an inflammatory state of the vessels. None of them have ever been able to point out any other concomitant effect of inflammation, such as thickening of the coats or effusion of lymph, or even to refer the redness to vascularity. It appears exceedingly doubtful, whether simple redness can ever be assumed as proof of the existence of arterial or venous inflammation.

The second section of the inquiry of MM. Rigot and Trousseau relates to the *Redness of the gastro-pulmonary mucous membrane.*

Few dead bodies are opened without more or less local injection of vessels being found in the alimentary canal. This injection is sometimes so great as to form not only a delicate net-work of vessels, but even actual extravasation of blood into the textures of the parts, or effusion of its red particles upon their surface; and such appearances are frequently found when a determination of blood to the part was not indicated by any symptom during life. It is well known to most pathologists, at least in this country, and particularly since the remarks of Dr. Yelloly on the subject, that the redness now alluded to, when unattended by other derangements, cannot be always referred to inflammation, and in fact is generally a pseudo-morbid phenomenon. But since the doctrines of M. Broussais became so unworthily fashionable in Paris, and even gained credit with many of the younger members of the profession in Britain, Dr. Yelloly's instructions seem to have been lost sight of. It may therefore serve materially to establish the principles laid down by that author, if we take a short survey of the more extended and minute researches of his successors, MM. Rigot and Trousseau,—who, by the by, have not deigned to acknowledge his prior and accurate investigations.

Comparative observations on animals are not quite so well fitted for settling the nature and extent of pseudo-morbid infiltrations of the alimentary canal, as for settling the nature and extent of vascular coloration. But nevertheless they throw much light on their cause, and prove satisfactorily that they may be produced to as great an extent as to resemble exactly *all forms of inflammatory redness.* In the dog, immediately after death, the villous coat of the intestines has every where a red colour; which, where the membrane is in contact with its own mucous only, has a brownish or violet tint, and a livelier rose or even scarlet tint, where it is in contact either with alimentary matter, or with the air. The stomach has a much paler rose red hue: we have likewise seen it occasionally dull white. In the horse, the natural colour of the mucous membrane of the stomach and intestines is a dull white, with a shade of yellow, and is hardly ever red. The authors have not had an opportunity of examining the natural state of the human alimentary canal. We are enabled to supply this deficiency in their inquiries, having had occasion to examine the whole intestinal canal in the human subject within an hour and a half after death. It was every where of a dull white colour, although the person did not die of hemorrhage or extenuation.

In the dog and horse no material change is observed, if the examination is made while the peristaltic movements continue. But after that the blood begins to accumulate in particular parts. Even so early as an hour, and always two or three hours after death, some parts of the intestines will be found bloodless, while the mesaraïc vessels of other parts are turgid. Different degrees of turgescence are met with. Sometimes the injection of vessels is confined to the sub-mucous cellular tissue, and does not affect the mucous coat itself, although in the former situation it is so minute as to rival the finest artificial injection, and is even accompanied with lenticular extravasation into the tissue. Sometimes, however, in the horse, and still more frequently in the dog, the villous coat itself is of a uniform bright red colour. And occasionally the colouring matter of the blood is effused on the surface so as to give a red tint to the mucous with which it is besmeared.

The several varieties of pseudo-morbid injection have been very minutely and correctly laid down in the work of M. Billard. He divides them into the *Ramiform* injections, which are sufficiently described by the name; —the *Capilliform*, which consists of an intricate net-work of fine vessels, sometimes so close as at first sight to appear an extravasated patch;—the *Punctated*, which resemble the appearance of a moistened membrane, dusted over with a red powder, and which the author, erroneously as we conceive, imagines to be a pseudo-morbid appearance *only* when produced by scraping the villous coat with the scalpel; the *Striated*, which he does not define exactly, but which are named from the arrangement of the redness in streaks, and which are formed sometimes of a finely injected net-work of vessels, sometimes of actual extravasation: the *Laminated*, which are either lenticular, like petechiæ, or in larger patches,—are produced by extravasation under the villous coat,* or incorporation of blood with its sub-

* He has related a striking case of this description, in which there was "a large amaranth-red patch, six finger breadths in extent, situate on a part of the ileum which lay in the right iliac fossa. The mucous membrane was thick, soft, easily torn, and when squeezed gave out blood of a gelatinous consistence." A similar and larger patch occupied a part of intestine in the pelvis. The person had hung himself. The author seems to view the lenticular or petechial extravasation as always morbid; but we have certainly seen it when disease was out of the question.

stance,—and are often accompanied with coloration of the mucous lying upon them: the *Diffuse*, which are merely an aggravated form of the laminated variety.

These injections and extravasations, continue MM. Rigot and Trousseau, are always most distinct in the most depending turns of the intestines, and in the most depending part of each turn; they are therefore most distinct near the loins and in the pelvis, if the body has been kept on the back; but are, on the contrary, most distinct in the anterior part of the cavity, if the body has lain on the belly. The parts of the intestines which are superior in position are always much paler, often quite pale and bloodless. A portion thus rendered pale may often be as minutely injected as with a fine artificial injection, if its position is reversed in regard to a part of which the mesaraïc vessels are turgid with blood. In an injected portion of intestine, those parts are most intimately injected, which are distended with alimentary matter: those which are empty and contracted may be almost pale, even though depending in position. When the injection is very great, the villous coat is evidently somewhat thicker than where it is pale.

Besides the appearances now described, another variety of pseudo-morbid redness is seen at times in the intestines,—namely a red stripe, wherever the intestines are in contact with one another. This variety may be present when the other is trifling. The coloration is seated in the muscular coat, and is disposed in lines perpendicular to the axis of the tube. The authors were unable to determine whether it arises from injection of vessels, or effusion between the muscular fibrils.

It is unnecessary to detain the reader by a comparison of the above appearances with the local redness which is often found in the intestines of man, and which is often hastily imputed to inflammation. Its characters are the same, its seat and extent are the same, and the circumstances that regulate its production, so far as they can be ascertained, are the same. It is impossible, therefore, to avoid tracing it to the same cause,—percolation of the blood towards the most depending parts. The red stripes caused where the intestines lie in contact with one another bear in particular a striking resemblance to the effects of inflammation.

The pulmonary mucous membrane, like that of the alimentary canal, is of a dull white colour, when examined in a healthy body immediately after death. It is liable to two varieties of pseudo-morbid coloration. The one is caused by injection of vessels with blood percolating towards the most depending parts of the tissue. This variety is often seen forming a longitudinal band on the posterior part of the trachea and greater bronchial tubes. The other is analogous to the coloration of the inner coat of the arteries caused by their being dyed in the fluid part of the blood, and is observed chiefly in those portions of the lungs which are gorged in consequence of their depending position. Both varieties are frequently accompanied with effusion of red particles of the blood, and consequent redness of the bronchial mucus. The tinging of the membrane and its mucus, combined with the turgidity of the pulmonary tissue around, is often mistaken for the effects of inflammation, to which indeed it bears a very close resemblance.

We may add a few remarks from the observations of the authors on this pseudo-morbid turgidity of the lungs. It is observed more or less in almost every subject. Its cause is evidently percolation; for, on the one hand, if, when it is considerable, the position of the lung be reversed, the pale portions will become somewhat turgid in their turn; and on the other, the seat of it is regulated by the position in which the body has lain after death. It is always accompanied with diminished crepitation, sometimes with the total absence of it. It is likewise always accompanied with diminished cohesion, so that the tissue of the lungs is easily torn.—One variety of it occurs even during life. Laennec ascertained by the stethoscope, that in diseases which end in a long stage of agony, the posterior part of the lungs becomes impervious to the air some time before death: and our authors have traced a connexion between this pathological state and the appearance of lividity on the posterior surface of the body under the same circumstances. In all such cases the gorging of the lungs, and likewise of the depending parts of the intestines, is very great. The cause evidently is the insufficiency of the feeble action of the heart to counteract the gravitation of the blood.

MM. Rigot and Trousseau have promised to lay down, in a future memoir, the rules for distinguishing the pseudo-morbid appearances described above from the morbid appearances with which they may be confounded.

From the Medico-Chirurgical Review.

Second Communication relative to the fatal Consequences which result from slight Wounds received in Dissection. By A. Colles, M. D.

Of Mr. Colles's first communication on this melancholy and interesting subject, we gave an ample account in a former number of this Journal. We shall now proceed, at once, to the present paper.

Case. On Tuesday, 18th of May, Mr. Shekelton examined the body of a man who had died of peritoneal inflammation consequent on lithotomy. The examination took place in a few hours after death, the body still retaining its heat. Mr. S. pricked his finger, which called forth the usual expression of pain, but it was not further attended to, the dissector continuing to immerse his hands in the contents of the pelvis for a considerable time. *Wednesday, 19th.* He felt unwell. 20th. Gave a demonstration, and immediately afterwards went home very ill, but did not apply to his medical friends. *Friday, 21st.* Mr. Cusack accidentally saw him, and found some

of the left axillary glands swelled, from which he augured no good. 22d. Mr. C. again saw Mr. S. and found the patient's condition improved. 23d. Mr. Colles saw the patient, who observed emphatically that he had spent a wretched night:—yet the febrile symptoms were not severe—pulse 84—skin hot—indescribable anxiety and distress—feeling of fulness in the stomach—glands in the axilla slightly enlarged and tender to the touch—no swelling or redness along the arm—pain along the course of the ulnar nerve and down the left side of the thorax—no appearance of inflammation in the ring-finger which had been wounded—indeed there was scarcely any trace of wound. By the patient's own desire a few leeches were applied to the axillary gland—he took an emetic, which operated well, but made no impressions on the symptoms. 24th. Uneasiness in the stomach and bowels—tongue coated—complexion assuming a yellow tinge—features rather sharp—no uneasiness in the course of the lymphatics of the arm—cessation of pain and swelling in the glands—hope indulged that the case would only turn out to be one of common fever. 25th. Constitutional distress increased, and the real nature of the disease too obvious. A full opiate at night. In the evening a red spot, the size of a shilling, appeared on the right patella, attended, for two hours, by the most severe torture in the knee, referred to the cavity of the joint. 26th. Two doses of laudanum last night produced profuse general perspiration, but no alleviation of the symptoms. He declared he had passed a most uncomfortable night. In the course of the night, his brother (a physician) observed a large red and swollen patch over the right tibialis anticus. This and the spot on the patella had a solid feel, but were not very tender to the touch. At 2 A. M. this morning (26th) the right arm, from the shoulder to the elbow, was observed to be swelled, though not discoloured. The right thigh was also in the same state. A red patch was seen on the dorsum of the left foot—pain complained of in the left scapula and shoulder—tongue thickly coated—countenance of a deep yellow tinge. 27th. Pain in the left arm, with considerable swelling—universal yellowness of the skin. In the evening extreme weakness. 28th. At five this morning he sent for Mr. Colles, and requested him to make incisions into the left arm. Mr. C. could not refuse to comply with the patient's wishes, though he knew the operation would be unavailing, as the hand was livid and cold—all the extremities cold. Several incisions were made, but nothing except a small quantity of blood issued. He died at nine o'clock that morning. *No dissection.*

In this case, our author observes, we recognize the same train of symptoms as in the cases of Mr. Hutchinson and Mr. Dease, reported in the third volume of the Dublin Hospital Reports.

"The present case tends to strengthen the opinion I then advanced, 'that slight wounds received in dissecting fresh bodies, sometimes give rise to a peculiar disease, perfectly distinct from every other disease consequent on similar wounds.' In addition to the other symptoms there described as being characteristic of this disease, we may mention this striking one, viz. that previously to the disease terminating either in death or in recovery, swelling and inflammation seize upon the portion of the limb interposed between the original wound and the first seat of pain. We see that this took place in Mr. Hutchinson's case at so late a period as three weeks; the fever, although it had remitted, not having ceased until this inflammation had occurred. In the fatal cases of Mr. Dease and Mr. Shekelton it appeared, in the former on the 9th, in the latter on the 10th day.

"I must entreat the attention of the reader to this fact, that the redness which is seen on the swollen parts is very unlike to that of erysipelas, for the colour is that of a peach-blossom, is of very small extent compared with the extent of the swelling, is seen for a few days, perhaps for a few hours only, on the same spot, and next is observed in some very distant part, possibly in the opposite limb; besides, this peculiar redness vanishing quickly from a part, does not leave any vesication or desquamation after it, as is seen in cases of erysipelas.

"If any proof be wanting to establish an essential difference between this disease and phlegmonoid erysipelas, it will be found in the state of the swollen parts when cut into. For although four incisions were made into different parts of the left arm of Mr. Shekelton, yet no discharge, except a small quantity of blood issued, nor was any change of structure visible except that slight one which has been noticed at the bend of the arm.

"This sudden shifting of the swelling and redness from one to another, and very distant part, is not to be confounded with what we sometimes observe in chronic diseases, viz. an abscess suddenly appearing in a part remote from the original seat of the disease. For in such cases the abscess quickly forms, and with this peculiarity, that we feel the fluctuation of pus although we have scarcely any marks of preceding or accompanying inflammation: the skin is not reddened until the ulcerative process is about to give exit to the fluid. In such cases, although we may have a succession of abscesses, yet we have not any instance of a sudden swelling accompanied by a light blush of redness, and of its equally sudden disappearance, leaving after it only a slight degree of swelling, without any other symptom or trace of inflammation.

"In short, this peculiar disease, the effect of slight wounds received in dissection, presents much less of inflammation of the wound or its vicinity than occurs in the various other diseases to which slight injuries more frequently give rise. Here it seems to produce mischief by exciting a fever, which in its turn induces a swelling and redness of very peculiar characters, although at length (if the

patient chance to survive) it will end in inflammation and suppuration of the wounded limb." 248.

Whatever opinions may be entertained respecting the nature of the disease, there can be but one respecting its fatality under every mode of treatment which has yet been devised. The following suggestion of a man who has had much experience in this direful malady, is deserving of great attention.

"The plan which I would suggest as most likely to succeed (for as yet it is untried,) is to administer calomel with a view of speedily exciting ptyalism. Many experienced practitioners I know are in the habit of combining this medicine with opium, when their object is to excite ptyalism very quickly. But I should prefer giving it in an uncombined form, and in doses of three grains every three or four hours. When administered in this manner, it seldom fails to produce salivation in thirty-six or forty-eight hours, provided that the two or three first doses effect the bowels. In cases where the bowels are not moved by the first doses of this medicine, it will be necessary, in order to ensure its effects, either to combine the calomel with some purgative, or occasionally to interpose a purgative. When thus administered it will very seldom disappoint our expectations. Mercury administered in other forms of fever has so often succeeded in effecting a cure, that I think we may, with some confidence, anticipate its good effects when administered in the fever consequent on wounds received in the dissection of very fresh human bodies." 249.—*Dublin Hospital Reports, &c.*

OMISSION OF LIGATURE IN AMPUTATION.

[Dr. Kock, of Munich.]

Notwithstanding the researches and experiments of surgeons and physiologists, respecting the spontaneous cessation of hæmorrhage from divided vessels, much uncertainty and much contradictory opinions still remain. The author of this paper thinks that *timidity* has tended to keep us in ignorance on some points of importance. There are very few who will amputate a limb, and fearlessly trust to nature for the security of the cut vessels. *The author's father, Director of the General Hospital of Munich, has not tied a single artery in the various amputations which he has performed for the last twenty years.* To this wide range of experience, the son has added his own, in corroboration of the opinions of his father and of himself, respecting the imaginary danger of leaving vessels untied in amputations.

Arteries, says he, when cut and not tied, remain entirely open, up to the place where they are divided:—The canal of arteries tied in the usual manner remains open also to the spot where the ligature is applied, and their parietes do not unite at this spot. These observations were repeatedly made by the author's father, on dead bodies, where the arteries had been cut by him, or tied by other surgeons, many years previously. He always found the diameter of the vessels that had *not* been tied, contracted as they approached the place of section, but the parietes never adherent till the artery ended in a kind of cicatrix. These things are seen in numerous preparations by the author, in the anatomical museum of Munich. The vessels that had been tied presented the same appearances, except that, at the spot where the thread had been applied, there was a narrowing, but never an obliteration of the canal of the vessel.

In a disarticulation of the hand, the surgeon had tied the radial artery, and omitted to tie the ulnar, as it did not bleed. The ligature came away on the eighth day, and on the succeeding day the patient died. On examination, the terminations of the two arteries were so similar, that it was difficult to say which of them had been tied by ligature. Both extremities were perfectly pervious—the radial artery appeared to be slightly torn at the termination.

In numerous experiments on dogs, our author could perceive no difference between the arteries that had been tied, and those that were left to nature. Thus, he tied the femoral artery of a dog, and cut the vessel below the ligature, without hæmorrhage. The wound was closed and healed. A month afterwards he killed the animal, and found the upper and lower extremities of the vessel were completely similar, each being united to an external coagulum by an open mouth.

The formation of a coagulum takes place in some, but not in all cases. But it produces the same effects in the vessels which are tied, and in those which are cut, and not tied. In ligatures of arteries, the internal coagulum is often found in connexion with the external, so as to fill exactly the orifice of the vessel. The coagulum is rarely adherent to the internal parietes of the vessel, and never completely so up to the nearest anastomosis. An amputation was performed at the hip-joint, and the crural artery was tied. The ligature came away on the eleventh day, and, on the fourteenth day, the patient died. On dissection, a clot was found plugging the artery, but the canal of the vessel was open. In a very few cases indeed was the bore of the artery found obliterated after the ligature, by adhesion of the sides of the vessel.

"No doubt," says the author, "that most surgeons will stare when I propose the general abandonment of the ligature, as the means of preventing hæmorrhage, especially in amputations. They will be still more surprised when I assert, that, by this omission of the ligature, the most certain means are taken to obviate effusion of blood. Yet this assertion rests on the basis of experience, and can be testified to by all those who have witnessed my father's operations in a public hospital for twenty years past."

Dr. K. appears to think that the spontaneous cessation of hæmorrhage from a divided vessel depends *chiefly* on some change in the

blood itself—partly in retraction of the vessel. The coagulum he considers as the *effect* rather than the *cause* of this cessation of hæmorrhage. This last conclusion appears plausible; for it is hard to conceive that coagulum can form *during* hæmorrhage—and if it form after the cessation of the flow of blood through the orifice of the vessel, it can hardly be viewed in the light of a *cause* of that cessation. All that can be said in this case is, that the coagulum may prevent subsequent hæmorrhage; but this our author denies.

"The application of the ligature," says he, "in disturbing the spontaneous cessation of the hæmorrhage, acts in a manner quite opposed to the end in view. It produces, it is true, a mechanical and temporary obliteration of the bore of the artery, but this is inferior in value to the natural retraction of the vessel, and spontaneous cessation of the hæmorrhage."

This spontaneous cessation is to be aided, or rather promoted, by pressure on the trunk of the vessel leading to the part, and a gentle degree of the same on the face of the stump, either by the hand or by a proper bandage. By these means the stasis of the blood is promoted, and protection from future hæmorrhage secured.

The method pursued by Dr. K. and his father in amputations is as follows:—After dividing the soft parts and bone, the surface is sponged, and the muscles and integuments brought neatly into contact, and retained by adhesive plaster, so as to secure adhesion by the first intention, if possible. *During* the operation, the vessel is compressed by the fingers of an assistant, and *afterwards*, the pressure of the fingers is rendered unnecessary by the application of a compress, laid along the trajet of the main artery, secured by a roller. The patient is then placed in his bed, and the stump kept elevated, and an assistant is directed to make gentle pressure on the face of the stump for an hour or two—or longer, if he feel considerable pulsation in the part. "When this pulsation has ceased, and when the dressings appear tinged red by the exuding lymph, all danger of hæmorrhage is considered as at an end, provided the patient keeps quiet. Presently, the exudation of lymph ceases—and the dressings become quite dry and cold." The patient generally passes the first few days without fever, on which account he is allowed wine, coffee, and other food, which dare not be given under other circumstances. No opiates or medicines of any kind are usually exhibited after the operation. About the fifth day, there is generally some traumatic pyrexia evinced, owing to the suppurative process going forward in the wound; but it requires no particular treatment. A moisture taking place on the dressings about the seventh day, indicates the establishment of suppuration; but if the dressings keep dry, union by the first intention is sure to have occurred. Whether suppuration or adhesion has taken place, the dressings are never removed before the tenth day, or even later, unless violent inflammation or hæmorrhage should arise. They consider that the adhesion of the integuments and muscles is never properly consolidated before the tenth or twelfth day, and, therefore, that much mischief is done by too early a removal of the dressings.—*Journal de Progrès.*

We leave these statements, supported as they are by occurrences in a public hospital, to the consideration of surgeons and physiologists. They are worthy of consideration.—*Ibid.*

From the Medico-Chirurgical Review.

CASES ILLUSTRATIVE OF THE ILL CONSEQUENCES WHICH SOMETIMES FOLLOW THE REDUCTION OF DISLOCATIONS. By M. Flaubert.

M. Flaubert has detailed some cases of this kind in the Répertoire, and, as they are not uninteresting, we shall give a condensed account of them here.

Case. 1.—*Dislocation of the Head of the Humerus forwards.* Le Breton, æt. 57, a sturdy sailor, rather given to drinking, fell upon the arm, which was carried forcibly backwards. This was on the 2d March, 1824. A surgeon applied poultices to the shoulder, but these giving no relief to the pain, the patient entered the Hôtel Dieu of Rouen on the 13th.

When seen by M. Leudet, there was swelling on the left shoulder, arm and fore-arm, which latter, with the hand, was rather cold. There was a hollow beneath the acromion, and the head of the humerus was situated under the pectoral muscle. It being evident that there was dislocation of the head of the humerus forwards, M. Leudet proceeded to the reduction. Accordingly, the patient being seated in a high chair, extension was made from the wrist, whilst the counter-extension was effected by a roller, passed under the arm-pit, the ends crossing over the opposite shoulder, and fixed to a staple in the wall. A ball was kept in the hollow of the axilla, to lift up the head of the bone at the instant of reduction. The extension was made by eight intelligent pupils, M. Leudet taking the management of the arm. At the first attempt, the head of the bone was dislodged from its place, and brought into the axilla; the second trial was followed by its complete reduction. An enormous swelling took place, almost immediately, beneath the pectoral muscles. The face became pale, and covered with sweat—the lips livid, and the pulsation in the radial artery ceased. M. Leudet attributed these symptoms to exhaustion, and the swelling he imagined to be *gas*, escaping into the cellular membrane. After a few minutes, the general symptoms disappeared, but the swelling remained, whilst the pain was intolerable. *Compresses dipped in a solution of acetate of lead, to be applied. 14th.* The countenance was pale—the pulse small, hard, and frequent. The swelling seemed to have sub-

sided a little, but the limb was cold, and of a purplish colour. In the axilla was a tumour, the pulsations of which were distinct to the eye, though not to the touch. It was now evident that the artery was ruptured, but the state of the parts around precluded any operation for tying the subclavian. On the 17*th*, phlyctenæ appeared, and on the succeeding days, gangrene became developed. 25*th*. The fingers, elbow, skin of the axilla, and inside of the arm, are in a state of sphacelus; the pulsations of the tumour are more marked. 27*th*. A good deal of hæmorrhage from two openings, situated a little below the arm-pit. Though the bleeding was arrested, the patient expired in the course of an hour.

Dissection. Hand and inside of the arm in a state of gangrene. The pectoralis major was almost completely torn across, and its fibres were separated by clots of blood. The upper portion of the short head of the biceps was ruptured also. All the muscles of the arm, shoulder, and outside of the chest, were infiltrated with blood. Between the pectoralis minor and latissimus dorsi, there was a large clot, on removing which, the axillary artery was found to be fairly torn across, a little above the origin of the subscapular. In order to discover the upper end of the vessel, it was necessary to dissect the *subclavian*, which was enlarged, as were the branches which arise from it. The *axillary* artery lay beneath the pectoralis minor, upon the rib, to which it adhered by means of coagulable lymph. This end of the vessel was narrowed, and the thoracic nerves flattened. The second rib was depressed, its periosteum slightly absorbed, and the bone itself a little rough. The head of the humerus was somewhat flattened on the part corresponding to the rib: the capsule was torn—the cartilage rough and ulcerated in parts. The inner margin of the glenoid cavity was fractured.

Remarks. It is difficult to imagine how such extensive injury should take place, without a great deal of violence having been used in the attempts at reduction. Surely the extension must have been severe, to rupture the great pectoral muscle and short head of the biceps, to say nothing of the axillary artery. At the same time, it is surprising what force is daily used, and with no bad effect whatever, in reducing dislocations. Would not amputation at the shoulder-joint have been advisable when gangrene was commencing? If ever amputation, during the progress of mortification, promises to be of service, it is in cases like this, where the disease is clearly local, the consequence of a deficient supply of blood to the limb.

Case 2.—*Dislocation of the Humerus into the Axilla.* Madame G. æt. 64, dislocated the humerus by a fall, Nov. 27th, 1823. She was not seen by M. Flaubert till seven weeks after the accident, and as the pains were less, and motion tolerably free, he dissuaded the patient from submitting to any attempts at reduction. Next day, however, she returned, fully determined to have the dislocation reduced if possible. The extension and counter-extension were each made in the usual way, by five men. The first attempt, which lasted seven or eight minutes, was unsuccessful; a second, and shorter one, effected the reduction, during which, the patient felt as though something "gave way" on the inside of the wrist. The patient was now found to be hemiplegiac on the right side. There was no motion, and sensation was very slight, especially in the arm. The eye of that side was half closed, and there was a slight acchymosis on the foot and lower third of the leg. M. Flaubert, considering the hemiplegia to be dependent on some extravasation within the head, produced by the agitation and violent efforts of the patient during the operation, bled her immediately. Purgatives were given, and rubefacients, with blisters, applied. The symptoms disappeared in part. In three months the leg was free from paralysis, but a degree of numbness and susceptibility to fatigue remained so late as February, 1826, the date of the last visit. The head of the humerus seemed to be drawn forwards, its motion was imperfect, the patient not being able to lift the hand to the mouth. The hand was useless, the thumb being extended, the other fingers semi-bent. The ring and little finger were quite insensible, and the heat of the limb appeared to be diminished.

Remarks. We think it extremely probable that the axillary plexus of nerves was injured. The giving way at the inside of the wrist, and the subsequent paralysis of the ring and little fingers, would seem to point out the ulnar nerve as suffering more particularly. Whether the hemiplegiac seizure was merely the result of sympathetic irritation of the brain, or actual lesion of the organ, of course we cannot pretend to say.

Case 3.—*Dislocation of the Head of the Humerus into the Axilla.* F. æt. 70, of a good constitution, met with a fall on the elbow, Nov. 1, 1825. Five weeks afterwards, she entered the Hôtel Dieu of Rouen, presenting all the symptoms of dislocation into the axilla, on the left side. M. F. being misinformed as to the time which had elapsed since the accident, proceeded to the reduction, which was effected on a second attempt. The patient immediately became affected with great constriction of the chest, sense of suffocation, and the face became purple and injected. These symptoms were followed by an emphysematous effusion, stretching from under the clavicle, across the shoulder, to the middle of the back, where it gradually disappeared. The patient was pale, and the pulse weak, with nausea. In the left thigh and leg there was a sensation of cold and great numbness; the least touch upon the thigh caused exquisite pain. The patient was placed in bed, when she fell into a state of syncope for about an hour, on recovering from which, she complained of imperfection of vision, severe headach, and loss of motion in the right arm. In the night, the patient was unable to make water; the catheter was introduced, and half a glassful of urine was drawn off. Next day, Dec. 9, the deltoid was completely paralyzed, allowing the

humerus to drop into the axilla as before. The upper and lower extremities of the left side were almost wholly paralyzed also. *Vesp. Catheterism—same quantity of water obtained.* 10th. Pain in the back of the head, ears, and nucha; pain also in the left thigh, with formication in that extremity—left arm quite insensible—pulse quick and rather hard—tongue foul—nausea. *Bleeding to eight ounces, frictions and volatile liniment with tincture of cantharides to the left arm.* 11th. Pupil sluggish—towards evening much difficulty of respiration. A purgative clyster was given which acted freely, and on the next day she was better. 13th. More pain in the left side. 15th. The pain prevents her sleeping. A vast slough was now discovered on the sacrum, she became gradually worse, and on the 26th the breathing was stertorous and the pulse irregular. In the course of the day she expired.

Dissection.—The pectoralis major was bruised by the roller used for counter-extension, indeed, on the inside the fibres were reduced to a kind of reddish-brown bouillie. On the outer border of this muscle was a cavity containing bloody serum. All the nerves of the arm were united in a mass in the axilla by means of condensed cellular tissue, a circumstance apparently owing to the pressure produced by the head of the bone. On approaching the scaleni muscles, the four last nerves which go to form the axillary plexus, namely, the 6th, 7th, and 8th cervical, and 1st dorsal, were found torn from their origin in the spinal marrow! The brain and its membranes were sound. On opening the vertebral canal the dura mater was of a reddish brown. The tunica arachnoides was injected, particularly in the neck. The spinal marrow at this part presented a range of white spots, marking the place from which the roots of the nerves had been torn. The medulla at this point was thicker than natural, and of the consistence of a reddish-brown bouillie, the gray matter not being distinguishable from the white. The filaments were rather red and injected.

Remarks. It certainly seems to us that in this case an extraordinary degree of force must have been employed. Perhaps the age of the patient, 70, might have rendered the parts more lacerable than usual, but still we cannot imagine how the axillary nerves could be torn from the spinal marrow, by any moderate degree of extension. We think that in old persons like the above, dislocations, especially if they have existed any time, should be left to themselves. Such patients cannot undergo with impunity the rude handling which is often necessary in effecting reduction, and a weak limb at their age is generally of but little consequence.

Case 4.—Dislocation of the Fore-arm backwards. A woman, æt. 45, of good constitution, presented herself Dec. 9th, 1826, with the above accident, which had taken place 27 days previously, in consequence of a fall from a voiture. The characters of the dislocation were well marked, and had been recognized by her medical attendant, who only applied a liniment to the elbow. The reduction was attempted twice by seven pupils without success, The patient was then bled, and extension being made again, the ulna slipped into its place, whilst the radius which remained behind was easily pressed by the thumb into its situation. At the instant of reduction, a diminution (*étranglement*) of the elbow joint took place, whilst a projection appeared above and below it. This was accompanied with a sound like that produced by the tearing of parts, and it seemed to those present, that the muscles which surround the articulation, with all the parts excepting the skin, were rent across. A considerable swelling followed, with a disposition to continual fits of syncope, whilst no pulsation could be felt in the radial artery. The pulse, however, returned next day, and the swelling gradually subsided. On the 26th December, she had an attack of pain in the right side of the chest, which was relieved by leeches. On the 4th January she left the hospital, having tolerable free motion of the arm, none in the fore-arm, and but little mobility in the finger.

Case 5.—Dislocation of the Humerus into the Axilla. The patient, M. Heim, met with the accident fifteen days before he applied to our author. The symptoms of dislocation into the axilla of the left side were well marked, and after employing the warm bath for two hours and a half, attempts were made at reduction. Before, however, this could be effected, the operators were obliged to desist, in consequence of the patient's complaining of excessive pain in the wrist, with loss of motion in the hand and fore-arm, and numbness of the whole of the left lower extremity. Considerable constitutional irritation, and a severe attack of fever followed, whilst there took place, after a time, infiltration of the arm and fore-arm near the elbow, which lasted for several months. In February, a slight power of flexion and extension was remarked in the fingers, but it did not increase. The fore-arm can now be bent to a right angle, but there is much pain in the neck, wrist, and fore-arm; the whole limb is wasted and useless, and its movements very feeble.

Case 6.—Lambert, æt. 40, of good constitution, and sanguineous temperament, was struck on the left hip by a bale of cotton falling from a height of twenty feet. He was brought immediately to the Hôtel Dieu of Rouen, presenting all the symptoms of dislocation of the femur, the head of the bone resting a little above the great sciatic notch. After some ineffectual efforts, during which he was bled, and two grains of tartar-emetic administered, the reduction was effected. He continued well till February 11th, two days after the accident, when the thigh became swollen, and the hip painful, the patient feeling much depression. 12th. He spat some blood in the night—more swelling. The pulse is weak—skin yellow—hiccup, followed by some nausea—tongue covered by a yellowish-white fur. 13th. Vomiting of yellow matter in the night—

the swelling has extended to the knee—some delirium. In the night of the 14th he died.

Dissection.—A large ecchymosis beneath the skin at the anterior and outer part of the thigh; rupture of the pyriformis, gemelli, and quadratus femoris muscles. The capsule torn, as was the ligamentum teres, close to the head of the femur. In the cavity of the joint there was a quantity of reddish pus, which communicated through the rent in the capsule with a depot of bloody pus situated between the pectineus and adductor muscles. All the greater organs were sound.

Remarks.—The death of the patient, we apprehend, was more the consequence of the accident itself, and of the constitutional irritation to which it gave rise, than of the attempts at reduction, though the latter, no doubt, had some share in producing the mischief. It is most probable, that the muscles were torn by the head of the bone, forcing its way from the socket to the sciatic notch.

As the author observes, these cases go to prove that old dislocations cannot always be reduced with the impunity which is generally imagined. He thinks, that many of the instances of paralysis of the arm, attributed to the luxation itself, are owing to the attemps at reduction, and remarks with some naiveté, "if it were otherwise, we must suppose, either that surgeons say less than they might about their mishaps, or that I alone have been unlucky enough to meet with all these unfortunate accidents." Perhaps both suppositions are partly right; at any rate, the above cases are calculated to teach gentlemen a little caution in handling their ropes and pulleys.

PATHOLOGY OF FEVER.

[*Dr. Hewett. St. George's Hospital.*]

In the Medical and Physical Journal for August, Dr. Hewett has again presented the public with some interesting documents respecting the alterations of structure found as *consequences*—or, as some will say, as causes of fever. The report embraces a year at the hospital above-mentioned, viz. from the 1st. July, 1826, to the 1st. July, 1827. In that time, 190 cases of idiopathic continued fever were admitted, of which number 26 died, and 165 were discharged cured. A large proportion of the *former* were admitted in those advanced stages, when irremediable organic disease had taken place. So much depends on the period of admission in fevers, that we have never attached much importance to those favourable or unfavourable *numerical* results, which some institutions present, as compared with others. We happen to know that some little management—we had almost said manœuvring is employed in some quarters, which not a little influences the *apparent* ratio of mortality. But of that, it is not our hint to speak at the present time.

In Dr. Hewett's report, a tabular view of the fatal cases is given, specifying the names of the patients, the duration of the fever, and the organs found affected on dissection. On examining these tables, one cannot help observing the predominance of diseased structure in the intestines, especially in the mucous membrane, as compared with lesions in the head and in the thorax. Still, the disproportion is not so great as to disturb the rational view which is now generally taken of fever in this country—namely, that the ravages of this disease are not confined to this or that organ, but fall, we might almost say, indiscriminately on one or other, according to circumstances, the exact nature of which we cannot always detect. Doubtless there are few individuals in whom all the great organs of the body are equally disposed or indisposed to disease. Hence, in fever, one organ is generally found to have borne a greater onus of disease than the others.

The most frequent species of lesion in the intestines (particularly the small intestines) was the follicular ulceration, described by Bretonneau and other French writers, as well as by Dr. H. himself, on a former occasion.

"That these follicular ulcers of the small intestines (seen in the above report to have so often occurred,) arise spontaneously during the progress of idiopathic fever, has been already sufficiently proved, and, when once established, it will be readily admitted that, though originally the effect of fever, they must (at least during their active and irritable state) reciprocally exasperate the symptoms, and become a very effective cause of the prolongation of fever; but the doctrine that their existence, when they have lost their irritability, and assumed a tranquil condition, is not incompatible with the subsidence of the fever, and even with some semblance of convalescence, may not gain so ready a belief, and may possibly require some further proof than the mere assertion of the writer." 112.

Two or three cases are detailed by our very intelligent author, which leave no doubt that a considerable degree of convalescence may take place, when these intestinal ulcers have lost their irritability, and thus the patient and practitioner are thrown off their guard, till some error in diet or other circumstances renews the irritability of the ulcers, and kindles up a new fever more dangerous than, and probably very different in kind from, the original.

In St. George's Hospital, as in all other parts of the kingdom, a considerable number of intermittents were seen, and all these were cured. Several of the continued fevers also changed into the intermittent or remittent types—probably connected, in some cases, with the state of the intestinal ulcers.

In two or three cases the ulcers had perforated the coats of the intestines, and violent peritoneal inflammation was consequently superinduced by the escape of the contents of the bowels into the general cavity of the abdomen. These accidents are often accompanied by signs which sufficiently indicate their occurrence, and enable the practitioner to prognosticate the issue.

In a case in private practice, Dr. H. ascertained the time which elapsed between the

complete perforation of the intestine and the death of the patient.

The gentleman was attacked with fever on the 15th March, 1827, and was seen by Dr. Hewett on the 21st. He did not then acknowledge any pain—his skin was dry and harsh, not very hot—pulse 104, and feeble—abdomen not the least tender, but it was large and hard—tongue pasty and brown. He had experienced several rigours since the commencement of the fever, which were generally followed by heat and some delirium at night. Two grains of calomel, with one of ipecacuan, and a quarter of a grain of opium were ordered every four hours. He continued much the same during the four following days, the medicines being continued. On the 27th the pill was ordered to be taken only once in six hours, and small doses of castor oil were directed when the bowels were torpid. On the 28th blisters were applied behind the ears, and cold lotions to the head. On Dr. Hewitt's visit 30th March, the patient reported himself free from pain; but on pressing the abdomen, his countenance bespoke the utmost agony. The last motion voided was found to consist almost entirely of blood, which was never the case before. All hope of recovery had now vanished, and anodynes only were exhibited. He died on the following day.

Dissection. The vessels of the brain were rather loaded, and there was some serosity at the base of the skull. The mucous membrane of the lungs were sound. On opening the abdomen, the omentum was found feebly adhering to some of the convolutions of the intestines, at spots afterwards ascertained to be places where some of the follicular ulcerations had nearly perforated the peritoneum. In two or three places, the perforation had been complete, and a quantity of liquid fæces was found in the cavity of the pelvis. The largest perforation was about four inches from the ileo-cæcal valve. There were numerous other ulcers, in various stages of their progress, extending throughout the whole line of the intestines. There were none in the cæcum or colon. These ulcers were not surrounded by any increased vascularity, and even the valvulæ conniventes, though in parts eroded by them, retained their natural hue. The mesenteric glands were enormously enlarged, some of them being an inch and a half in length. The liver and other abdominal viscera were healthy.

Dr. H. is far from wishing to attach any undue importance to these follicular ulcers, and is fully aware that they are the result of only one of the many disorganizing effects of fever. "But while the latter, from the alarming symptoms with which they are attended, immediately command the attention of the practitioner, the former often insidiously complete the work of destruction, without even exciting a suspicion of their existence."

Dr. Hewett is entitled to the thanks of his brethren, for drawing their attention to this interesting investigation.—*Ibid.*

MEMOIRE ET OBSERVATIONS SUR QUELQUES MALADIES DE L'APPENDICE CŒCALE; *par le docteur* F. Melier, *Membre Résident de la Société de Médecine.* Imprimé par décision de la Société.

In the Journal Général de Médecine, &c. for September, we find extended through a space of nearly thirty pages, a very interesting article under the above title, a summary of which we proceed to lay before our readers.

Dr. Mêlier introduces the subject of his memoir by some general observations on the comparatively non-importance of the appendicula vermiformis in the human system. Considered merely as a rudiment in man and the higher order of animals, it has not been supposed to possess any influence in the economy of life, and has consequently scarcely attracted the attention of the cultivators of pathological anatomy.

In fact, while it has been found wanting in many subjects, and only present in others under the form of a small tubercle, it has been extirpated in animals both by ligature and the knife; and in the human subject has presented itself dilated to a greater or less extent by fœces and foreign substances, without being followed by any remarkable occurrences. Some observations, however, which have been recently made, prove, that however passive in a state of health, this organ may be the seat of rapidly fatal diseases—an additional confirmation of the fact, that there is nothing unimportant in the human system, nothing which is not worthy of the most scrupulous investigation.

Eight cases are related, the two first of which, were read before the Royal Academy of Medecine, by Dr. Villermay, in 1824. We shall translate the most remarkable.

Case 1.—*Acute Inflammation of the Appendicula Vermiformis; gangrene of that organ; death on the fourth day.*

M. G——, aged 35 years, of a good constitution, was attacked on the morning of the 10th November, with violent pain in the right side of the abdomen, attended with great tenderness on pressure, and bilious vomitings. The testicle of the same side was strongly retracted, the pulse was somewhat slower than natural, and a sensation of *coldness* upon the dorsum of the right foot had existed for three or four days prior to the attack. Notwithstanding the employment of general and local depletion, the warm bath, &c. the disease assumed progressively a more unfavourable aspect; the pulse became hard and frequent, and the pain more intense, particularly in the right iliac region. The patient died about the middle of the fourth day. On dissection, twenty-four hours after death, an extravasation of about five ounces of a blackish serum, exhaling a gangrenous odour, was found in the right iliac fossa, in the centre of which floated the cœcal appendix, one-third longer, and more voluminous than usual, black and mortified; it could be detached without

the slightest effort. The traces of inflammation gradually diminished in approaching the cœcum, the internal surface of which presented a perfectly healthy appearance. Small gangrenous spots were dispersed upon the folds of the peritoneum adjoining the intestine, which were adherent to the iliac fossa.

The right kidney was unaffected, but a seropurulent fluid was observed in the surrounding cellular tissue; the mucous membrane of the stomach was red and thickened; that of the intestinal canal was in its natural condition.

CASE 2.—*Acute Inflammation of the Cœcal Appendix terminating in gangrene; death on the third day.*

The patient, 37 years of age, had an inguinal hernia on the right side, for which he wore a bandage. On the 21st of July, one hour after having supped with his family, he complained of general *malaise*, nausea, severe colic and pains about the umbilicus; there was a sensation, as if a cord were drawn tightly across this region. The nausea terminated in the vomiting of a very green and viscous bile; the pain and anxiety augmented during the night. At six on the following morning, the prostration was extreme, the thirst intense, pulse small, frequent and contracted, the umbilical region painful on pressure; of slight tumefaction of the hypochondriæ, the hernia was entirely reduced. The pain was so acute as to call forth loud cries when the patient attempted to speak. Venesection, local depletion by leeches and other antiphlogistic measures were prescribed, but were not submitted to by the patient. The vomiting continued in the evening, attended with alvine discharges of a similar character, dysury, tumefaction of the abdomen, slight pain in the right lumbar region, irregular shiverings, &c.; he died on the morning of the 23d. On opening the abdomen, the appendicula vermiformis was observed, three inches in length, and about an inch in diameter at its base, of a black colour throughout, and directed towards the inguinal ring, which was much dilated; the appendicula, however, was entirely unconnected with this opening, into which it could be introduced at pleasure. The mucous membrane of the appendicula was thickened to the extent of three lines, it was of a silvery whiteness near the cœcum, but black and disorganized in every other part. The cœcum was found entirely healthy, even to the orifice of the appendicula; the other intestines were also unaffected—the mucous membrane of the stomach, presented some slight traces of inflammation.

CASE 3.—*Inflammation, gangrene and perforation of the Appendicula Vermiformis; followed by peritonitis and death.*

M. Laeut, aged 35 years, of a robut constitution, was attacked on the evening of the 3d July, by colic pains, which he attributed to a suppression of perspiration; the ordinary remedies were prescribed, and on the 5th the disease appeared to have been removed; still, however, the countenance bore evidence of suffering, and there was some tenderness of the hypogastrium; pressure upon this part produced a return of the pain. Twenty leeches were directed to be applied, but the patient suffered so little, that he concluded to defer them till the following morning. During the night, he had two copious alvine evacuations of a very fetid bilious matter, accompanied with severe spasms, after which he felt himself much better. The diarrhœa continued on the sixth, and was attended with so much relief, that it was deemed unnecessary to apply the leeches. The evening of that day, while administering to himself an enema, he was suddenly seized with a severe, lacerating pain in the abdomen, which almost deprived him of consciousness; followed by nausea, frequent efforts to vomit, cold sweats, feeble pulse, &c. Dr. Fourcadelle was called in consultation, and after having carefully considered the circumstances of the case, and ascertained that there was no hernial protrusion, it was decided that the patient was labouring under acute peritonitis consequent upon *spontaneous perforation* of the intestines. Fifty leeches were directed to the abdomen, fomentations, &c., but were not productive of the slightest melioration; all the symptoms of peritonitis in its most violent form developed themselves, and the patient died about eighteen hours after its commencement. On examination post mortem, the peritoneum was found of a rose coloured tint throughout, but traces of inflammation were more evident in the right iliac region, large flakes of coagulable lymph were found upon the colon, and other parts of the intestinal canal. In the right iliac region, there was an extravasation of a yellowish fluid mixed with fæces; the appendicula vermiformis was much enlarged, equalling the gall bladder in volume, of a livid colour, soft, and in part gangrenous; on compressing it with the finger a fluid escaped, similar to that which formed the extravasation, together with some fœcal matters; the extremity of the appendicula presented an irregular opening, several lines in diameter, other smaller ones were also observed in different parts of its surface. The interior of the cœcum was in its natural condition.

Dr. Mêlier supposes that in this instance, an accumulation of fœces had taken place in the appendicula, which becoming gradually more and more distended, inflammation supervened by a kind of *engouement*, followed by gangrene and rupture. The symptoms of colic in the first instance, apppear to have originated from the distension and inflammation of the part, its rupture gave rise to the extravasation, which in its turn was the cause of the peritonitis. This case differs from the two preceding ones, in that, in the latter, there was no accumulation of fœces in the appendicula, rupture, &c. When it is considered, however, that in these also, that organ had undergone a considerable dilatation, and augmentation of volume, it will appear probable that such accumulation had previously taken place, giving

rise to the subsequent symptoms; a conjecture rendered probable by the fourth and fifth cases related in the memoir. In the first of these, the patient, who had suffered occasionally from slight attacks of colic, during the two preceding years, after having undergone unusual fatigue, and committed some irregularities in diet, was attacked with general *malaise*, pain in the abdomen, particularly in the right side, porraceous vomitings, constipation, and other symptoms of abdominal inflammation. The constipation continued throughout the disease, which terminated fatally on the fifth day, notwithstanding the vigorous employment of the antiphlogistic system. On dissection, the intestines were found much distended, and of a reddish brown colour, which became more intense in the vicinity of the cœcum; the latter was in part gangrenous and had contracted adhesions with the surrounding organs. The appendicula vermiformis was completely mortified, equalled the index finger in size, and presented at its inferior extremity, a perforation, capable of admitting the end of a common writing quill. The cavity of the dilated appendicula was filled with hard, round bodies, not unlike cherry stones, consisting of indurated fœces, disposed in layers, and bearing a strong resemblance to urinary calculi. On opening the cœcum, the ileo-cœcal valve was found much thickened, indurated, and completely closing the orifice of the ileum. The fifth case referred to, was not very different from the foregoing, some general indisposition had for several months preceded the attack, which was more immediately ushered in by nausea, vomitings, &c. supposed to arise from indigestion; acute pain in the right iliac region soon developed itself; the other symptoms followed in their course, and the patient died on the morning of the sixth day. The appendicula vermiformis was observed upon examination, thickened, black, and in a state of sphacelation. A calculus, half an inch in length, of an irregularly ovoid form, was found in its cavity.

Case 6.—*Perforation of the Appendicula Vermiformis, communicating externally.*

M. Malus, inspector of reviews, aged 45 years, of a slender form and delicate health, had been subject to frequent and protracted catarrhal affections. In 1812, he was attacked with acute pain in the right iliac region, accompanied with tumefaction, tenderness on pressure, obstinate constipation, meteorism, fever, &c. These symptoms, supposed to arise from an affection of the cœcum, with consecutive stercoral *engouement*, were combated by means of diluents, warm baths, fomentations, rigid diet, and other appropriate measures. The febrile symptoms disappeared, but the constipation continued, and yielded only to the long continued use of the infusion of senna, aided by purgative enemata. A well regulated diet, equitation, &c. completed the cure, or at least, effected a considerable improvement in the general health of the patient. This state of things continued till February, 1815, when he suffered an attack of pulmonary disease, attended in the first instance, with sanguineous expectoration; and he was scarcely convalescent from this new malady, when the pain in the right iliac region recurred with increased severity, accompanied with a large and renitent tumour, endued with exquisite sensibility, and constipation. Up to the 13th of March, little diminution was observable in the volume of the tumour, notwithstanding several alvine discharges had been procured; and this circumstance, together with the appearance of the latter, induced a supposition, that it had its seat in the intestine itself; the inflammatory condition became gradually more evident, the tumour hard and unequal, projected in the iliac fossa, and presented a volume of five or six inches in every direction. MM. Jaquelin, Sen. and Dupuytren, were called in consultation; a deep seated fluctuation was perceived on the 14th, and immediate relief was obtained by the discharge of a considerable quantity of reddish and fetid fluid, from a puncture made by M. Dupuytren. The wound remained open, and continued to furnish a sero-purulent discharge in great abundance; the patient became gradually more debilitated, his expectoration was very copious, and three new openings, communicating with the abscess beneath, successively formed in the neighbourhood of the original one. The patient continued in this state, with little variation, till the winter of 1816, when the pulmonary affection became more urgent, the sputa more abundant and decidedly puriform, with infiltration of the lower extremities, &c. It was remarked on several occasions, that diarrhœa supervened upon the cessation of the discharge from the fistulæ, and again disappeared when the latter was re-established. On the 15th of April, after exposure to a current of cold air, M. Malus was attacked with pain in the abdomen, fever, and died of acute peritonitis on the 22d.

On dissection, a large abscess was found in the superior lobe of the right lung, the remainder of this viscus was sound and crepitating. The peritoneum contained an extravasation of reddish serum, in which floated flakes of coagulable lymph, which was effused also between the convolutions of the intestines, the surface of which bore evident marks of inflammation. Upon careful examination of the part which had been the seat of the tumour, the skin attenuated, and denuded to the extent of about two inches, was perforated by four fistulæ communicating with each other, and opening together in an empty pouch, situated between the muscular fibres of the abdominal parietes and the external surface of the peritoneum. A portion of the cœcum adhered to this pouch, and the appendicula vermiformis, of which it appeared an expansion, was closely connected with its parietes by short cellular tissue. The cellular substance of the iliac fossa was in a healthy condition, as was also the cœcum and colon, and it was thought that had the life of the pa-

tient been protracted, a spontaneous cure would have been soon affected. Notwithstanding this evident communication between the intestinal canal and the wound, by means of the appendicula, there was never any indication of the presence of the fœces in the discharge from the latter.

In comparing this case with the preceding, Dr. Mêlier supposes that here also, the cœcal appendix was the principal seat of the disease, which originated in an accumulation of the fœces in its cavity; adhesion with the peritoneum next occurred, in consequence of the irritation and inflammation produced by their presence; engorgement of the surrounding cellular tissue followed, the appendicula opened into the latter, and in this manner a phlegmon was formed. It is possible, however, that the tumour might have been formed in the first instance, and the appendicula only consecutively involved; and this supposition is in some measure, confirmed by the absence of pus in the stools, and of fœces in the discharge from the fistulæ.

The seventh, is a case of lumbricoides found in the cœcal appendix, occurring in 1808, and recorded by M. Jadelot. The patient, a lad 13 years of age, died the tenth day of his admission into the Hospital des Enfants, of fever, presenting an adynamic character, and evincing towards its conclusoп some symptoms of ataxia. On opening the body, the physician was surprised to find, on the one part, a lesion of the extremity of the ileum, in every respect similar to that described by M. Petit, as characteristic of the fever to which he has given the appellation of entero-mesenteric; and on the other, the different portions of intestine filled with ascarides lumbricoides, four of which were enclosed in the cavity of the appendicula vermiformis.

The last case brought forward by Dr. Mêlier in exemplification of this disease, is extracted from the Jour. de Med. Chirurg. et Pharm. de Corvisart, Leroux et Boyer, where it occurs under the title of *Historia Enteridis* Malignæ *et Singularis Calculosi Concrementi*. Like some of those already related, it was preceded by colic pains, which, light at first, gradually became more severe; an acute and fixed pain afterwards manifested itself in the right iliac region, ultimately followed by death. Inflammation of the termination of the ileum and commencement of the cœcum was observed on dissection; the latter was in a state of gangrene, which appeared to have originated in the neighbourhood of the appendicula. *Cœcum ipsum a gangrenâ destructum erat, quæ omnis abeâ parte, ubi processus vermicularis illi se inserit, exorta esse videbatur.* The appendicula itself was of a red colour, and larger size than ordinary, and several calculi were found in its cavity, one as large as a pigeon's egg. Analyzed by M. Robiquet; 60, in 100 parts, were found to consist of adipocire, 30, of phosphate of lime, and 8, of an indeterminate animal matter; from which it results, that they participate of the nature of biliary and urinary calculi.

The researches of M. Wegeler, by whom the preceding case is related, resulted in the discovery of only one other analogous instance recorded by Amgand in the Philosophical Transactions. A needle formed the nucleus in this instance; *unicus tantum casus, ubi acus crustâ lapideâ obducta in processu vermiculari detecta fuit.* Vicq-d'Azir cites a case (Encyclopédie Méthod.) in which the calculus equalled a filbert in size, and was traversed by a hair; and there has since appeared in the Gazette de Santé, extracted from a memoir by M. Olivier Prescott, an account of death caused by the introduction of the *cacao* nut into the appendicula vermiformis. The patient died with all the symptoms of peritonitis, and the cœcum with a part of the ileum and colon were found gangrenous.

EXTRAVASATION OF URINE FROM ULCERATION OF THE URETHRA.

J. Pugh. a stout middle-aged man, was admitted into Accident Ward, on Friday evening, September 28th, under the care of Mr. B. Cooper. He was sent to the hospital by some neighbouring surgeon, and was stated to be labouriug under inguinal hernia; but Mr. Callaway, who visited the man shortly after his admission, arrived at a different conclusion; he found on the right side, near to the root of the penis, a fluctuating tumour, into which he thrust a lancet, and evacuated a considerable quantity of pus. On making inquiry of the patient (who however gave a very unsatisfactory account,) it appeared that the swelling had existed nearly a week; that he had for several years, been labouring under stricture, and of late had passed his urine in a very diminished stream. The bladder not being distended, and the patient evincing much irritability, Mr. Callaway, did not attempt to pass a catheter. He prescribed one grain of calomel, with a grain of opium, to be taken every four hours, and an enema of castor oil; a poultice to be applied to the part incised.

Saturday. We find the patient to-day with a sloughing wound at the root of the penis, on the right side, as large as the tip of the finger, and the skin to some extent around it of a dark red colour. The scrotum is red and swollen, but has no appearance of urine being extravasated in its cellular tissue. The urine is passed with some difficulty; a very firm and insuperable obstruction to the passage of the catheter, is stated by Mr. Callaway to exist a short distance down the urethra, which is also in a highly irritable condition: the bowels are freely open. Calomel and opium continued, and poultices to the wound.

October 1. The wound at the root of the penis has very considerably extended, and the urine partially flows through it; this was observed, in a slight degree, yesterday. *No further measures adopted.*

2. Attempts were made this morning to

pass a catheter, by Mr. Callaway, for a considerable length of time, but without success. In the afternoon Mr. Cooper saw the patient, and in vain endeavoured to pass an instrument into the bladder; the obstruction was about two inches and a half down the urethra; and this part being once passed, with a small elastic gum catheter, so that (as Mr. Cooper thought) the instrument could be felt in the perineum, still it was found utterly impossible to carry it further. The ulceration at the side of the penis had now so far extended, that on the occasion of passing a probe down the urethra, another, introduced at the wound, readily struck against it, and the urine passed through very freely; the wound had a foul sloughy appearance, and had much increased in size. Mr. Cooper was of opinion that there was no extravasation of urine in the scrotum or in the perineum; he directed the elastic catheter to be retained, as far as he had been enabled to pass it, anticipating that the urine would flow through the instrument, and thus its passage through the opening on the side of the penis would be prevented. Mr. Cooper also directed that the patient should be put into a warm bath, and the pills of calomel with opium to be continued; nitric acid lotion and poultices to the wound.

3. The catheter was only retained for a short time yesterday; the urine now flows freely through the wound, and the skin around it is much inflamed; the scrotum and also the perineum are tender on pressure, but there is no distinct indication of extravasation of urine; and this is stated to be the reason for not laying open the urethra in perineo, as proposed yesterday. The pulse this morning is low (there has been nothing remarkable in its character hitherto,) the tongue is dry and fissured. Some julep of ammonia prescribed, to be taken every four hours.

4. Much the same; no further means employed, the urine continuing to issue from the wound.

5. It was evident on examining the patient this morning, that extravasation of urine had taken place in the perineum, either by a fresh lesion of the urethra, or from the urine infiltering into the cellular membrane at the ulcer existing at the root of the penis, and passing backwards; the scrotum, however, was not much swollen.—It was now determined upon to perform the operation of laying open the membranous part of the urethra: this was accomplished by Mr. B. Cooper with some difficulty. An incision was made somewhat similar to that practised in lithotomy; but owing to the engorgement of the surrounding cellular tissue with ill-conditioned pus and urine, the parts had become so much altered in appearance, that the passage of the urethra was not readily found. However, at length Mr. C. succeeded in passing an elastic catheter onwards, apparently into the bladder, and this was retained.

6. The pulse very feeble; tongue dry, covered with a thick fur, and cracked; the wound in the perineum looking sloughy, that at the root of the penis cleaner, and the integuments around less inflamed. The catheter is retained in the pereneal opening, and *the urine passes freely through it.* Ordered, five grains of carbonate of ammonia, with half a grain of opium, to be taken every four hours. Wine to be given at intervals.

7. The patient died this morning.

Post Mortem Examination.—The urethra was sound and healthy, to about the extent of two inches and a half downwards; and here a most extensive destruction had taken place, in fact all appearance of urethra was gone, and a large sloughy pouch was formed by the surrounding cellular texture, so that it was impossible to pass a director onwards to the bladder. The urethra was so completely destroyed, that there was no remains of the stricture to be seen; this had given way in the general and extensive ulceration and sloughing which had evidently taken place from the extravasation of urine. Proceeding from the ulcerated portion, the bulbous part of the urethra was found to be healthy; at the posterior part, that is to say, at its junction with the membranous portion, there was an evident preternatural narrowing of the canal, and upon close inspection some thickening beneath the mucous membrane was detected, constituting a stricture; but, as Dr. Hodgkin remarked, by no means "a bad stricture." The incision which had been made through the perineum into the membranous portion of the urethra, and which we suppose was intended to be carried onwards, through the prostate and neck of the bladder as in the operation for lithotomy, was found to have been made obliquely through the under part of the prostate gland, *but had not entered into the bladder, nor had the catheter been introduced from the wound into the bladder.* The fact is explained thus—the ducts of the prostate gland were enormously enlarged, and from the dilatation of these ducts, sacculi were formed in the prostate containing, calcareous matter and urine and having a free and direct communication with the bladder by means of the mouths of the ducts. The knife, therefore, had cut through a portion of the prostate gland, and opened into the largest sacculus, which was on the left side and underpart of the gland; a gush of urine consequently ensued, and of course led to the belief of the bladder being open; into this sac, too, the catheter was introduced from the perineum, and the urine readily flowed, in consequence, as we have seen, of the direct communication existing between the pouch and the bladder itself. The point of the knife had evidently gone immediately beneath the mucous membrane of the neck of the bladder, and there was an echymosed spot of about the size of a sixpence on the inner surface of the bladder, above where the instrument had passed. There was purulent matter in the cellular tissue around the neck of the bladder, its internal surface was

sacculated, and puriform fluid issued from the cavities when pressure was made.—*Guy's Hosp.*

FRACTURES OF THE NECK OF THE FEMUR.

M. Larrey made a report to the Academy of Medicine on a paper of M. Brulatour, Director of the School of Medicine at Bourdeaux, in which there was an account of eight cases of fracture of the cervix femoris. Sir Astley Cooper asserts, that bony union seldom or ever takes place when the fracture is situated within the cassule. M. Brulatour's cases tend to refute Sir A. Cooper's assertion; in six, permanent extension was kept up by Desault's apparatus, and a cure was promptly affected, so that at the end of three months the patients walked without lameness and without the aid of crutches or sticks, and the fractured limb was only shortened a few lines. In the seventh case, the patient died thirty days after the fracture from pneumonia; the body was opened, and the fracture presented the appearance of a red line containing a cartilaginous substance, which joined the two fragments of bone, and all the fibrous structures of the part were tumefied and in a state of inflammation. Lastly, in the eighth, the patient recovered from the effects of the fracture; but his death, which happened ten months afterwards from spitting of blood, gave M. Brulatour the opportunity of examining the seat of the fracture. Its situation was visible; it had divided obliquely the centre of the neck of the femur, which was much shorter and thicker than that of its fellow; when sawed in its whole length the callus presented the form of an oblique reddish line, of a darker colour, and softer substance than the rest of the bone; the specimen was then presented to the meeting. M. Larrey thought that this specimen unquestionably proves that fractures of the neck of the femur may, notwithstanding what has been said, unite as completely as those of any other bones: if its union is so seldom obtained, it is because the limb is not carefully kept immoveable, and because the apparatuses for permament extension, which are generally employed, are more fit to separate the two fractured fragments of bone than to keep them in contact. From fifteen to twenty days of perfect rest, and the horizontal position, are sufficient, as a specimen which M. Larrey presented proves, to effect this union. Sabatier, in these cases, only employs cylindrical splints, on which he places the fractured limb, recommending repose, and leaving the rest to nature.

This report brought on a discussion; several members, MM. Baffos and Murat, thought that the greater part of M. Brulatour's cases had no character of fractures of the neck of the femur, nothing being more rare and difficult to obtain than union of the fractures without shortening of the limb, and consequently without lameness. M. Murat, after examining the specimen presented by M. Larrey, added, that it was a specimen, not of fracture of the neck of the femur, but only of contusion of the neck.—*Arch. Gén. de Méd.*

CONNEXION OF THE OVARIA WITH THE FALLOPIAN TUBES IN SOME CLASSES OF MAMMALIA. By G. R. Treviranus.*

Albers, in an account of the dissection of a common seal, (phoca vitulina†) describes the ovarium of this animal as lying in a bladder, which, like the uterus and its cornua, consists of three coats. He does not give any explanation of the mode in which the fallopian tube opens into this bladder, and appears not to have been aware of the physiological worth of his discovery. Lobstein‡ found the same formation in the hooded seal (phoca monachus.) E. H. Weber, the author of a valuable work on the organ of hearing in animals, wrote to me in November, 1822, saying, "that in the otter the ovaries are suspended in a tunica vaginalis, formed of the peritoneum as the testicles, and that the fallopian tubes open by their fimbriated extremities into their closed cavities.

Three species of mammalia only have been hitherto known in which the ovaries are enclosed in a tunica vaginalis, and having a different local relation to the fallopian tubes than in the human subject. I have certainly increased the number of these species by the addition of the martin (mustela foina.) In the female of this animal the sound ovarium is situated immediately before the end of the fallopian tubes, in a cavity which is enclosed by a process of their external covering, and intimately connected with the loose peritoneum. On the under and outer side of this covering, it is closely adherent to it; between the other parts of the capsules and the ovary there is a free space where the fallopian tube opens. The uterine opening of the tube is very narrow. Towards the ovary it increases in size, and at its extremity there is a delicate vascular fold in immediate contact with the ovary. Between the fallopian tubes and the cornua of the uteras there is no perceptible difference. I communicated this discovery to Prof. Weber, who informed me that he had also detected the same connexion between the ovaries and the fallopian tubes in the pole-cat.

It appeared to me very probable, that this formation was not confined to the above orders, but that it might be also common to the whole weasel and bear tribes, and even to other genera, as I recollect passages from the writings of several anatomists, which I now perceive have a relation to this circumstance, but which hitherto were very obscure. Thus, for instance, Collins§ mentions an account of the connexion of the ovaries with the fallopian tubes in the bear, which was observed by Stenson,‖ from

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* Tiedemann's and Treviranus's Zeitschrift für Physiologie. I. b. 2s. Heft.

† Beitrage zur Anatomie und Physiologie der Thiere. H. 1. s. 21.

‡ Journal de Medicine, par Leroux.—T. xxxix.

§ Syst. of Anatomy. Vol. i. p. 643.

‖ Testiculi in ursa constant plurimis granubis albicantibus instar ovarii piscium; tubarum

which there is no doubt that in these animals the same curious formation exists. The academy of Paris, in their dissection of a female civet, gives the following account:* "the very broad fimbriæ of the fallopian tubes extended over the ovaries and covered these," which can have no other reference than to this formation, and Sir E. Home† also makes mention of the capsule of the ovary in the ornithorynchus, in which the fimbriæ of the fallopian tube open into the ovary.

In any case, the ovaries of several classes of mammalia are enclosed in a tunica vaginalis, and within this capsule the fimbriated extremities of the fallopian tubes, not only adhere to the ovaries as they do in other animals during the time of impregnation, but are constantly joined to them. In some of these animals, also, there is no difference between the cornua of the uteras, and the fallopian tubes. But in the glires, both these organs in their width, structure, and connexion, are so different, that they can only be regarded as the complete reverse of these parts in those animals to which I have referred. And although in the latter the passage of the impregnated ovum into the fallopian tubes is so easy, it is difficult to conceive how it takes place in the former, particularly the agouti. In modern times, the apparent difficulty of impregnation in many plants, has been brought forward as proof against the Linnæan doctrine of the propagation of plants. The disputants were certainly not acquainted with the animal kingdom, for they would have been induced, on seeing the formation of the internal organs in generation of the glires, to have attacked the hitherto received doctrines of the propagation of animals, as they had those respective plants. But when a theory is supported by a large number of accurate observations, it is more than probable, that in the small number which appear to contradict the theory, some circumstances have been overlooked, which, if known, would remove the apparent contradiction. I have examined the internal organs of generation in a large guinea pig, for the purpose of ascertaining how the ovaries empty their impregnated contents into the fallopian tubes, and if I have not succeeded in removing all doubt on the subject, still the difficulty of explanation is not so great as has appeared.

The fallopian tubes of the guinea pig are very narrow, and very long, and twisted at their extremity into a kind of knot or loop. Their ovarian opening does not terminate in fimbriæ, but goes into a process of peritoneum, which covers, in part, the ovaries, aud is continued along the fallopian tubes, and cornua of the uteras. It may be asked, for what purpose are these organs so long, and also twisted at their extremities? If they merely answer the purpose of carrying the matter which is exuded in conception from a small vesicle in the ovarium, into the cornua of the womb, nature might have been much shorter in answering her object. These questions I cannot satisfactorily answer; still I see no reason to depart from the generally received opinion of impregnation. On the contrary, I find, in these animals, the formation of the genital organs confirmatory in two points of the usually received opinion of generation.

First, we find muscular fibres at the extremity of the cornua of the uterus, and on the ovaries, which undoubtedly serve for the prssage of the impregnated matter into the womb, which can have no other effect than of approximating these two parts to each other. Secondly, in confirmation of the usual theory of impregnation, I found in the ovary belonging to that cornu which contained only one embryo, one *corpus luteum* only, whilst in the ovarium of the other cornu, in which two embryos were contained, I found two such yellow bodies. I am aware that these bodies have been found in the ovaries of virgins, and in persons where the number of these bodies did not correspond to the number of children which they have borne. But these observations have been made on the human female, on whom irritations of different kinds may produce the same effect in the ovaries as impregnation, and where the impregnated ova pass off more frequently than is generally believed, without being perceived, or are changed into hydatids. I had an opportunity of seeing in a young woman, who died six weeks after her marriage of a rupture of the right fallopian tube, an ovum of the size of a small walnut in the tube, and which only contained water; there was also an hydatid in the right ovary, and two yellow bodies. In animals, nothing similar to this has been observed, and in those cases where more corpora lutea than embryos have been supposed to have been found, a corpus luteum has most probably been mistaken for another body, a mistake which is very easily made in animals.

M. Treviranus has illustrated these observations by a plate of the female organs of generation in the martin and guinea pig.—*Lancet.*

EXTIRPATION OF THE TESTICLE, FOLLOWED BY TETANUS. By M. Couronne. [Revue Medicale.]

Muyart, aged 37 years, of a constitution impaired by disease and debauchery, received a blow upon the testicles, productive of severe pain, which soon disappeared, unaccompanied by ecchymosis or inflammation of these organs.

Two years afterwards he complained of acute pain in the left testicle, especially after walking or long standing; the part was considerably swelled and indurated. The tumour continued to increase notwithstanding the repeated application of leeches, poultices, the use of a suspensory bandage, and a state of the greatest possible repose. The severity of the pain however, had been much lessened by this treatment.

Early in July, the patient unable to attend

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extrema expansa illos adeo undique includunt, et parvulum duntaxat foramen in abdomen pateat, quo dilatato sponte elabuntur testiculi.

* Hist. des Animaux. Tom. i.

† Philos. Transact. 1802

to his customary avocations, and extremely desirous of relief, I proposed extirpation, to which he cheerfully acceded. The following were the appearances then presented. Enlargement of the left side of the scrotum to three times its natural size, almost unattended with pain—smooth to the touch—no fluctuation or transparency, and a slight increase of weight in proportion to the size of the tumour. The spermatic cord was somewhat tumefied, but entirely free from pain. The general health good. The operation was performed on the 13th July. On examination of the testicle, it was found to preserve its usual form, notwithstanding its great increase of size. The tunica albuginea presented no alteration; upon cutting through this envelope, the substance of the testicle for the space of nearly a line was in a perfectly healthy state; at a greater depth various deviations from healthy structure were observable,—such as scirrhous degenerescencies, medullary matter, and small cavities containing a few drops of a limpid and slightly yellowish fluid; the epididymus and spermatic cord were sound, though somewhat engorged.

Nothing very remarkable occurred till the 23d; the wound was covered with granulations, and advancing towards cicatrization. At that time a slight difficulty of separating the jaws was observed, together with a sensation of stiffness in the muscles; these symtoms, accompanied with pain, gradually increased in intensity, extended to the muscles of the neck, extremities, &c. and the patient died on the 3d August. During the last days of his illness, the wound which had continued to discharge, in small quantity, pus of a laudable character, made great progress towards cicatrization; at the period of his death, it was diminished three-fourths of its extent.

The treatment consisted in general and local depletion, the latter by leeches to the spine; the warm bath, mercurial frictions, blisters along the vertebral column, and the exhibition of opium and other antispasmodics, both by the mouth and in enemata.

On dissection, no alteration was perceptible in the substance of the cerebrum, with the exception of its being rather more injected than ordinary; a small quantity of bloody serum was found in the ventricles; the arachnoid membrane covering the cerebellum, was entirely opaque, and on removing it, a layer of medullary matter was found adhering to it; the cerebellum, softened considerably throughout its whole extent, was converted on its surface and to the depth of about a line, into a semi-fluid pulp, of a yellowish gray colour, unattended with any remarkable odour. The medulla oblongata did not participate in this alteration, but it was found lower down in the spinal marrow, which was completely dissolved, presenting in its tissue, spots and striæ of a reddish colour. These alterations were chiefly observable in its superior half. The arachnoid membrane covering this part was in a healthy condition, but the dura mater was very red on its internal surface. Externally it was separated from the osseous parietes of the canal by a great quantity of bloody serum, containing, in considerable abundance, oily particles, arising probably from the escape of the medulla of the spongy tissue of the vertebræ, during their section. Extravasation of a sanguineous fluid was found on the left side of the thorax. On cutting into the inferior lobes of the lungs on this side, there escaped a large quantity of very dark coloured blood. The abdominal viscera were in general sound; the stomach presented some reddish spots on its internal surface; the spleen resembled in consistence the lees of wine.

The body was examined 24 hours after death, and decomposition had advanced so far, especially along the upper part of the spinal column, as to produce an evolution of gas.

MALIGNANT PUSTULE, *cured by the internal administration of Phosphorus.* By M. Decazis.

L. A., of a good constitution, experienced 23d Sep. 1823, an itching sensation on the lower part of the left arm, which induced him to rub it smartly. In a little time, the pruritus was accompanied by local heat, smarting pain, *engorgement*, and a livid colour, which alarmed the patient, and occasioned him to send for M. Decazis. On the part which had been affected with the pruritus, there was a blackish spot about the size of a crown, surrounded by a livid circle, and an erysipelatous tumefaction which extended to the whole member; the pulse was small. It was evidently a case of malignant pustule. The actual cautery was freely employed, and the limb constantly covered with lint wet with vinegar holding in solution muriate of ammonia, camphor, cinchona, and nitre. Antiseptic medicines were given internally in large doses without success. The disease advanced rapidly, the tumefaction of the arm extended to the whole left side of the body, the extremities became cold, the tongue dry and blackish in the middle, and the pulse scarcely perceptible. Vesicatories impregnated with camphor were applied to the diseased arm and inferior extremities, without producing any amendment; the patient was constantly comatose, and unable to answer the questions put to him.

In this hopeless condition, M. Decazis determined to make trial of phosphorus, with the view to produce a general reaction, which might arrest the rapid march of the disease. Three grains, dissolved in an ounce of sulphuric ether, were given in divided doses during the twenty-four hours. In a little while, the pulse was again perceptible, the extremities re-acquired their natural temperature, and the excitement would have proceeded too far, had the remedy not been suspended. The patient recovered rapidly.—*Revue Medicale.*

HYDATID OF THE LIVER, *cured by the application of caustic.* By L. Martinet. [Revue Medicale.]

Damenge, a painter by trade, fell, on the 26th of April last, from a height of ten or

twelve feet, and was for a time deprived of consciousness. The following day, a yellowish tint was perceptible on the face, which spread quickly over the whole body. On the 30th, pain and a sense of weight were felt in the right hypochondrium, decubitus on either side became impossible, and the patient could lie only on his abdomen: the pain in the hypochondrium was attended with a retraction of the right testicle, fever, thirst, &c. with these symptoms he entered the Hotel Dieu on the 3d May.

At that time, the fever had nearly disappeared, a yellowish tinge covered the whole body, the tongue was slightly whitish, and the bowels constipated. On examination, a tumour of an irregular form was found in the right hypochondrium, extending from the xiphoid cartilage to the vicinity of the false ribs which were elevated by it, and to a distance of three fingers' breadth below the umbilicus. Pressure upon this part occasioned very little pain; several immoveable, hard, and projecting bodies were recognizable by the touch, and an obscure sense of fluctuation was also perceptible. Percussion produced upon the superior and right side of the abdomen, a dull sound, which was prolonged into the pelvis; striking any part of the abdomen with one hand, while the other was applied over the tumour, occasioned no appreciable impulse; a diminution of sonorousness in the right hypochondriac region, was the only information derived from percussion practised conjointly with auscultation. On the 5th the fever and pain had entirely left him. In order to ascertain the nature of the tumour, a puncture was made with a very fine trocar, in the part where the fluctuation was most evident; a cupping glass was applied, and some drops of a limpid fluid flowed from the opening. After a few days, the health of the patient continuing good, and the icterus having diminished, caustic was applied over the most projecting part of the tumour, and the next day an incision was made in the centre of the eschar, and the potash re-applied. The swelling appeared to diminish somewhat after the use of the caustic.

The eschar separated on the 15th, and on the 19th the tumour spontaneously opened through the bottom of the wound, and discharged, with some degree of force, a yellowish limpid fluid, mixed with a great number of hydatids—three basins containing each two *litres* were filled in a few moments. An immense number of hydatids of every size, from a marble to a large egg, were evacuated through the opening, and the volume of the abdomen sensibly diminished. The same day an injection of barley water and honey was thrown into the cavity, with the view to prevent the contact of air with its interior. During three days, hydatids continued to be discharged in considerable numbers. The patient reclined upon his back, had no fever, and appeared a little affected by the disease; The injection, which at that time consisted of a solution of muriate of soda, was returned with no perceptible odour. On the 23d, the hydatids which still escaped from the cyst, had a yellowish colour, apparently occasioned by bile; the quantity of the injection is less than at first, but is discharged with a fetid odour. Compression was made upon the tumour by means of a bandage round the body.

26th. Instead of a pint and a fourth of fluid, which was injected in the first instance, a pint only was now admitted. A decoction of barley water and cinchona, holding in solution chloride of lime, was substituted for the muriate of soda; the solution occasioned some degree of stimulation, and changed the character of the fetor, though it did not remove it altogether.

11th June. Four ounces only of the injection could be introduced, and the fetor had almost entirely disappeared. On the 22d the quantity was reduced to two spoonfuls. The margins of the wound, which had considerably diminished in size, were slightly touched with caustic to repress some fungous granulations.

5th July. The ulcer was reduced to an extent of four lines; a small quantity of a thick, purulent, and fetid matter was still discharged, especially when pressure was made upon the part, or when the patient coughed, sneezed, &c. On the 6th the discharge had become more copious, of a greenish colour, and possessed a fecal odour; on the evening of the 7th it was found to contain some fragments of peas which the patient had eaten for dinner. Notwitstanding this, his health continued excellent; his diet was ordered to be regulated, and soup only to be given. Up to the 20th the discharge still continued unchanged, and contained spinage and various other articles which the patient ate from time to time. The fistula extended to the depth of about two inches, in a direction from below upwards; its external orifice was situated immediately below the false ribs. Several attempts were made to close the wound with the twisted suture, but without success.

The subject of this case left the hospital on the 30th July, in a state of perfect health, a narrow fistula was all that remained of his disease, from which there still issued a small quantity of a fetid greenish pus. A few days after his discharge, a slough formed over the fistula, which from that time advanced rapidly towards cicatrization.

In a late journal, M. Ratier relates a case similar to the above, but differing from it in being unconnected with the intestine, in which the caustic was applied with the like favourable consequence.

From the Lancet.

CHYLE OBSERVED IN THE VEINS OF THE JEJUNUM.

By Professor Mayer, *of Bonn.*

From my own observations, as well as those of Megedie and Tiedemann, it has been

proved that the veins of the intestinal canal are capable of absorbing the different fluids which it contains. That these veins also take up chyle, is certainly not to be denied, although the fact cannot be easily demonstrated. Every piece of information, therefore, will be interesting, which confirms the opinion that the veins of the intestines absolutely absorbs chyle, in a manner independent of the lymphatic system, or of those lacteals, the mouths of which open into the veins, as has been recently shown by Fohmann. The fact did not certainly escape the attention of former anatomists, although their observations on the matter are few. Swammerdam, Falkenberg, Meckel, sen. found chyle in the veins of the intestines, and Menghini, also observed it in the veins of birds; and in modern times Tiedemann* observed in the vena porta white streaks which resembled chyle. Others deny the possibility of the fact. The following case occurred to my notice:—

A robust man, about seventy-nine years of age, died suddenly from a severe attack of asthma, and his body was soon afterwards brought to the anatomical theatre at Bonn. The chest, as well as pericardium, contained a great quantity of serum. The lungs strongly adhered to the lining membrane of the chest, and contained several tubercles and small abscesses. The viscera of the abdomen presented no diseased appearance. The upper and lower extremities were both anasarcous. The intestines were now removed from the body for the purposes of anatomical demonstration. On examining separate parts of the intestines with care, I observed both on the outer and inner surfaces of the small intestines vessels of a greyish white colour. At first I took these vessels for lymphatics, but on a closer inspection, found that they were veins. The lower third of the duodenum, the whole jejunum, and a part of the ileum, were covered with these veins, which contained a fluid very similar to chyle; but this fluid only existed on the ramifications of the veins, situated on the surfaces and borders of the intestines; for at the spot where the two layers of the mesentery met, the veins contained blood. On dividing these small veins, a thick greyish fluid, resembling chyle in appearance, was poured out; the small intestines were filled with chyme. No lymphatic vessels containing chyle could be discovered. Unfortunately the other organs were in such a state as to prevent the examination being further prosecuted.

It scarcely admits of doubt that these veins really contained chyle; but it will be asked how the lymphatic vessels of the intestines contained no chyle, although the man appears to have died at the moment when the formation of chyle in the jejunum and duodenum was taking place? This question I am unable to answer, but the appearance which I observed stands recorded. The vitality of the venous probably continued longer than that of the lymphatic system, and that of the right longer than the vitality of the left side of the heart. If this were the case, the systole and and diastole of the right continued longer than those of the left cavities of the heart, which might have exerted an influence on the absorption of the chyle, by the extremities of the veins of the intestines.—*Zeitschrift für Physiologie.*

* Versuche iiber die Wege auf welchen Substanzen, &c. Heidelberg, 1820, p. 74.

From the Lancet.

CASE OF A RARE ANEURISMAL DISEASE OF THE TEMPORAL ARTERIES AND LIGATURE OF THE CAROTID.

The following account of a rare disease of the larger arterial branches, for we can scarcely call it aneurism, nor yet can it fall within the definition of aneurism by anastomosis, as described by John Bell, and subsequent writers, will, we doubt not, be perused with the deepest interest.

——— æt. 22, of a full and powerful habit of body. In the left side of his head, covering a portion of the frontal, parietal, and temporal bones, is a very large pulsating tumour, whose surface is extremely soft, and very irregular, forming many lobules, of various size and position, and resembling in appearance those large varicose tumours which are occasionally found in the course of the saphœna vein of the thigh. The pulsation is distinct throughout every part of the tumour, which can easily be emptied of its contents by pressure. The trunk of the temporal artery, and its anterior and posterior branches, are enormously enlarged, and pulsate with remarkable vigour. The two latter terminate suddenly in the swelling, which occupies the usual position of the middle temporal artery. The posterior aural artery, and the occipital as well as a branch from the temporal vessels of the opposite sides, are wonderfully enlarged, and they communicate abruptly with the disease. All these arteries have attained such a size, that their situation is evident to the eye. On emptying the tumour of its contents, which fills the moment pressure is withdrawn, the cranium below is found to have undergone (no doubt from the pressure of the disease) a remarkable process of absorption, particularly at those points where the tumour has attained the greatest bulk. It must at many places have become exceedingly thin. The integuments covering the most prominent portion of the swelling have become very much attenuated, and it is evident that ulceration of them must soon be the consequence of the distention. Over the situation of the trunk of the temporal artery is a long cicatrix, the result of an operation which was performed for the ligature of that vessel. The patient complains of frequent most distressing pains and sensations in his head; in other respects he enjoys excellent health.

The complaint commenced slowly twelve

years ago, after the receipt of a blow, and it has increased gradually till it has assumed its present alarming size. Two months since Mr. Babington applied a ligature to the temporal artery, but this did not in any way check its progress.

The day following the patient's admittance into the Hospital, Mr. Wardrop tied the common carotid artery immediately above the crossing of the omo-hyoideus muscle. The first incision was large. When the operator had divided the cervical fascia, he used a blunt knife in detaching the artery from its connexions at that point where he applied the ligature. Considerable difficulty was experienced in passing the aneurism needle (Bremner's) round the vessel. This we can have no hesitation in ascribing to the size and shape of this instrument, which is by no means well adapted for the carotid artery, however well it may answer in tying the subclavian. A plain, small and blunt aneurismal needle would, we are certain, have passed at once. During the operation, two large thyroideal veins, which bled freely, were divided. Some of these, according to to Harrison, are always endangered. The moment the ligature was tied, the pulsation in the tumour completely ceased, but the swelling did not collapse, as might have been expected. The patient experienced no unusual symptoms in his head. The edges of the wound were retained together by means of suture.

On the evening of the operation the patient became affected with nausea, and in the act of vomiting, a little venous hemorrhage occurred, which was easily restrained by the application of cold. During the night he slept well, but next morning he complained of headach and nausea. The pulsation of the right carotid artery was singularly vigorous. A slight thrill was perceptible in the upper part of the tumour, which was not diminished in size, but had become of a more solid consistence. He was bled to ℥xx, and took opening medicine.

On the second day he felt comfortable, and free of pain. The right carotid was beating with great violence. Tumour diminished a little in size,—a slight thrill still perceptible at its apex. A trifling discharge of pus from the wound. A bag of ice was now applied to the tumour. Went on well till the fifth day, when he had a severe rigour, after which he was affected with severe headach, anorexia heat of surface, thirst, and general febrile symptoms. No tenderness in the neighbourhood of the wound, which is covered by a small piece of lint which is adhering to it, nor could any cause be discovered for the constitutional disturbance. Pulse 100, full and strong. The The house surgeon very properly bled him to syncope, and ordered him two grains of calomel and antimonial powder every two hours.

On the seventh day, while in the act of making some exertion, a hæmorrhage occurred to considerable extent, which appeared to be partly venous and partly arterial, it however soon ceased. The general febrile symptoms were still severe. Pulse 120, very full and strong. No tenderness in the neighbourhood of the wound. Tongue foul; thirst. Again bled to syncope, the blood exhibiting the buffy coat, and ordered to take a solution of tartar emetic every hour.

Eighth day after the operation, no recurrence of hemorrhage, but the general febrile symptoms continue unabated. He has no pain, nor is there any swelling or tenderness in the neighbourhood of the wound. He appears on the whole to be better now, but his situation is still one of danger.

9th. Blood was again drawn very freely from the arm, and a large dose of opium given; after which he passed a very refreshing night, and next day appeared much improved, his pulse having sunk to one hundred. Venous hemorrhage had occurred daily since the operation. The tumour, though still large, has considerably diminished, and has a slight but distinct pulsation; it can be entirely emptied of its contents by pressure, and does not fill again till after a considerable lapse of time; the patient is unable to bear pressure long, a degree of headach and stupor being immediately produced.

On the eleventh day he complained of pain in the left eyeball and orbit—the vision of the eye was somewhat affected. He also experienced some degree of deafness. It was observed that he appeared to be remarkably drowsy, and he occasionally exhibited symptoms of a wavering state of the intellectual functions. On the twelfth these symptoms had increased; complete blindness and deafness had now succeeded, and he was affected with a degree of stupor bordering almost on coma, with occasional and slight delirium. His pulse, however, was only eighty-eight, and not full. Pupil of the affected eye remarkably *contracted*. On the thirteenth day, the stupor and delirium had subsided, but the blindness was undiminished, and the eyeball was found to be protruding from the orbit, with œdematous effusion under the conjunctiva, and in the palpebræ.

These singular and distressing symptoms gave rise to much speculation, as to the cause of their occurrence. Some *physiologists* ascribing them to a want of sensibility in the brain and its nerves, owing to a deficiency in the supply of its stimulus, the blood, and resembling that state produced in the lower extremities of the inferior animals, by a ligature of the aorta; or that loss of sensibility in the fingers of man, arising from an obstructed subclavian or humeral artery. Mr. Wardrop and Mr. Lawrence were inclined, however, to take a very different view of the symptoms, and to ascribe them to a morbid state of the brain itself, arising, in all probability, from an aneurismatic affection of those vessels of the dura mater which, by passing through the cranium, communicate with the superficial arteries of the head, forming, in fact, internally,

a part of the disease which was so conspicuous outwardly, and thus by their enlargement exerting a powerful compression on the brain itself. This opinion was highly corroborated by symptoms afterwards noticed, viz. by the great protrusion of the eyeball, and by the circumstance that the thrilling pulsation was most observable in the centre of the tumour, at that point where the cranium appeared almost completely absorbed, and where, in all probability, the freest communication existed with the vessels supplying the membranes of the brain. Mr. Langstaff, we understand, informed Mr. Wardrop, that he once knew of a case of nævus maternus of the head, where the capillaries of the dura mater were similarly affected. The great freedom of anastomosis, which every where exists in the encephalon, and particularly at the circle of Willis, must, we should think, prevent all chance of deficiency of sensibility in any part of the brain, arising from a diminished supply of its stimulus, an effect which has never been observed in any of those numerous cases in which the common carotid arteries have been tied.

On the fourteenth day after the operation, every disagreeable symptom had subsided, except the protrusion of the eyeball, which is decidedly increasing. The tumour itself has diminished most perceptibly in size, and has lost in some degree that highly varicose and cellular appearance, which was so distinguishing a feature of the disease on his first admission.

Two small abscesses have formed, probably from his long continuance in the same posture, under the integuments of the back of the neck, and posterior part of the scapula, which were discharged. On the 18th the eyeball being prodigiously pushed forward, a slough was observed to be forming at the upper part of the sclerotic coat, which rapidly extended through the tunics of the eye, and the evacuation of its contents was the speedy consequence. The violent pain in the orbit, which he had experienced from this protrusion now subsided. On the 25th day, every symptom having subsided, the ligature was spontaneously discharged, the edges of the wound being universally adherent, except at the point where it made its exit. The tumour is now one half its original size, flaccid, and easily emptied of its contents, some time elapsing before it again fills. Pulsation slight, and only occasionally perceptible in its centre. The integuments covering it, have resumed their natural appearance. The temporal occipital and posterior aural arteries do not pulsate. If pressure be made upon the tumour, a sense of headach and oppression of the brain is immediately produced, but this has become less marked of late.

The further treatment which Mr. Wardrop intends to adopt as soon as the patient can bear it, will be the compression of the tumour, but as the vessels of the dura mater, are in all likelihood affected, it is not, we think, improbable that a bad effect might thus be produced on the encephalon itself.

From the Lancet.

FUNCTIONAL DISORDER OF THE URINARY SYSTEM.—ALBUMINOUS URINE.

The patient, a Spanish refugee, about the middle period of life, with attenuated features and sallow complexion, was unable to give any satisfactory account respecting the commencement of the disease; that is, of the time when the urine first appeared altered in its *visible* properties. He had experienced no bodily suffering; an uncomfortable sensation about the loins being all that he had now and then complained of; had a natural pulse, and tolerably clear tongue; appetite good: the *quantity* of urine he passed, during the twenty-four hours, was not more than ordinary; that voided on rising in the morning, twelve hours abstinence having intervened, had the appearance, and emitted the odour of healthy urine; it gave no deposit; it was not submitted to the action of heat: that passed one hour after breakfast, was somewhat cloudy; another portion voided two hours after the same repast, was pre-eminently cloudy; on standing there formed a slight flimsy jelly-like looking mass, resembling white of egg. We saw several specimens that were voided two, four, and six hours after dinner. The first of these, that voided two hours after dinner, had a slightly yellowish appearance; on standing it afforded a jelly-like mass, similar in appearance and consistence to white of egg. This constituted about one-fifth of the aggregate; the remaining four-fifths appeared a yellowish looking serum. The specimen voided four hours after dinner was white, having the appearance of milk. Three-fourths coagulated; the remaining fluid fourth was slightly milky in appearance; the coagulum was partly opaque, partly semi-transparent. Another specimen, voided six hours after dinner, possessed the property of milky chyle, such as is elaborated from oleaginous substances. It was white and opaque like milk; its taste was alkaline, not unlike that of a mixture of milk and carbonate of soda; it soon coagulated; it formed a solid mass, of a white colour, moulded to the shape of the vessel, resembling blancmange.

Dr. Prout, in his work on Diseases of the Urinary Organs, has related a case similar, in many respects, to the present. The specimens obtained in the evening, in both cases, it will appear, were identical. We will transcribe the doctor's observations entire, relative to this specimen, especially as they tend to unfold the nature of its composition. "The specimen voided in the evening after an early dinner, taken about noon, was the most remarkable, and so closely resembled chyle, in all respects, that I am doubtful if it had been brought to me as a specimen of that fluid, whether I should have discovered the imposition. It consisted of a solid coagulum,

of a white colour, and assuming the shape of the vessel, like blanc-mange. On being submitted to a gentle pressure, and permitted to drain, the residual solid portion was like that of the others,* small in quantity, but whiter than the coagula of the other specimens: it was, however, mixed with strings of a firmer consistence, and of a red colour. The serous portion was white and opaque, like milk, and on being heated, and permitted to stand at rest for some time, threw up a substance upon its surface, very like the cream of milk, and which, like that substance, was found to contain a considerable proportion of a butyraceous principle; its specific gravity was 1.0175, and its smell was not urinous until after it was concentrated by evaporation, when it became slightly so, and in this state yielded faint though distinct traces of the presence of urea. It was not coagulable by heat, though it contained abundance of albuminous matter, chiefly, however, in that state in which it exists in the chyle, and which I have elsewhere denominated *incipient* albumen.† One hundred grains of this serous fluid, evaporated to dryness, left about seven grains, half a grain of which only was soluble in alcohol, and consisted of urea, a little fatty matter, and the other principles commonly found in all animal fluids; while the remaining six grains and a half consisted chiefly of the imperfect albuminous and fatty principles above mentioned, with some salts. It burnt with a flame, yielded an odour like that of cheese, and left a coal difficult to incinerate, but which when burnt, was found to contain a considerable proportion of earthy salts, consisting chiefly of phosphate of lime." Such are the doctor's observations relative to the chylous specimen, and the chief elements of its composition. The different specimens obtained in the present case, (the case of the Spanish refugee) would seem to depend upon the presence of a greater or less proportion of albuminous principle, from barely perceptible traces of it to perfect chyle.

There are some circumstances which occurred during our observation of this interesting case, which we deem particularly worthy of notice. About a week after the patient's admission into the hospital, he sickened, and lost his appetite; this was followed by a diarrhœa. During the continuance of the flux, the urine voided exhaled the odour, and had the appearance of healthy urine. The discharges from the bowels showed a deficiency of bile, they resembled in colour, pipe-clay; as the bowels became less irritable, and the discharge less frequent, *pari passu*, the urine became deteriorated in its properties, and on the cessation of the diarrhœa, it was as albuminous as ever, and with the change came his usual health and appetite. What explanation will this admit of? Was not the diarrhœa consequent on slight inflammatory action of some portion of the alimentary canal, induced by a change of diet, from the poverty of vegetable living to the stimulus of animal food? This being admitted, will not the inflammatory action existing in the bowels, in some measure account for the restoration of the healthy functions of the urinary system, upon the principle of counter-irritation. As long as irritation continued in the bowels, so long were the urinary discharges apparently healthy; when that irritation ceased, which occasioned the loss of appetite, &c. the functions of the urinary system were again disordered. *Functional* aberration does not much impair the general health. The return of the patient's appetite, with his wonted vigour of mind and body, under such circumstances, are easily explained. The irritation in the bowels was the cause of his sickness; on the removal of that irritation, the effects ceased. We could not obtain any thing satisfactory from the patient, as to the appearances of his motions previous to his admission: during his sojourn in the hospital, they manifested a deficiency of bile. —*St. Barthol. Hospital.*

* The previous specimens, on being submitted to pressure, parted with a large proportion of serous fluid, becoming exceedingly reduced in bulk, and assuming the appearance of a red fleshy mass of a fibrous texture, which on examination, was found to have all the properties of the fibrin of the blood, mixed with a few of the red particles of the same fluid.

† Annals of Philosophy, vol. xx. p. 13.

From the Archives Generales de Medicine.

CASE OF CONGENITAL CYANOSIS.

Franz N. of Wels, born of a mother who died of marasmus at the age of 34 years, had possessed from infancy a very feeble constitution, requiring all the care and attention of his parents. His skin presented a bluish aspect resembling precisely that of a new born child. Notwithstanding frequent attacks of oppression, he passed fortunately through the period of childhood, during which, several diseases, scarlatina among others, had disappeared under an appropriate medical treatment; and with the exception of occasional attacks of asthma, his general health did not appear much affected.

Between the age of 20 and 32 years, hemapotysis made its appearance, which was speedily removed by venesection and other means usually employed in this disease. About this time he was affected, without any known cause, with extreme anxiety and agitation, palpitations and paroxysms of asthma, accompanied even with syncope; the blue colour of his body changed to a blackish hue, and was attended with a deathlike coldness. An hemorrhoidal affection followed his recovery from this alarming condition, which was relieved by the application of leeches.

At the age of 28, N—— married, and had subsequently five healthy children. The blue colour of the skin preserved its usual intensity, the nails were thick and incurvated,

there was great muscular debility, unequal pulse, palpitations, &c. Towards the end of his life the oppression became more frequent, and he died at the age of 35 years, after violent and reiterated attacks, preserving his intelligence to the last.

Necropsis.—The lungs engorged with blood and covered with tubercles, adhered in several places to the pleura; on each side of the thorax, there was found an abundant serosanguineous extravasation; the pericardium was filled with serum, the heart enlarged in size, and the parietes of the right ventricle so much thickened as almost to efface its cavity; the left ventricle was in its natural condition, *there was no appearance of a septum between the two ventricles.* The great vessels of the heart were much dilated, and contained black blood, the foramen of Botal was closed, the stomach filled with mephitic gas, the liver large and whitish, and the intestines presented some blue spots.

This is a rare, and perhaps unique example of the generative faculty, preserved in a man afflicted with cyanosis of a true and well defined character, and shows that with a considerable anomaly in the circulatory organs, one may live many years, and even survive several acute diseases.—*Archif. für Medizinische Erfahrun.*

From the Revue Medicale.

PERFORATION OF THE SMALL INTESTINE. By M. Martinet.

Bisson, a locksmith, twenty-five years of age, had laboured under fever and diarrhœa, attended with slightly sanguineous discharges for three days, when he entered the Hotel Dieu. Pain in the abdomen, severe headach, and febrile paroxysms occurred every evening. 13th July. Pressure upon the abdomen produced pain, especially in the epigastric and umbilical regions, the diarrhœa and headach continued, there was a bitter taste in the mouth, and the tongue was covered with a whitish coat; the pulse was strong and frequent. *Two grains of antimony and two drachms of sulphate of magnesia, were directed to be taken in a pint of veal broth.* After the vomiting occasioned by this medicine, the headach disappeared altogether, the pain of the abdomen diminished, appeared only at intervals, and the fever was reduced to a slight increase in the frequency of the pulse. A strict regimen was enjoined, and after several paroxysms of fever, which still continued to recur in the evenings, the diarrhœa was much relieved, though there was still some admixture of blood in the evacuations. He appeared to be on the point of convalescence, when he was attacked on the 23d July with acute and sudden pain above the pubis, which spread rapidly over the umbillical region, and in a less degree to the side of the abdomen; dysury and repeated vomitings of a bilious matter quickly supervened, and the patient had three stools without producing any relief. Fifteen leeches were applied over the hypogastrium, and after their removal, the warm bath was directed. The vomiting continued unchecked by these means.

24th. The belly was extremely sensible to the touch, especially in its middle part, from the pubis to the epigastrium. The slightest touch of the skin, excited loud cries from the patient; the tenderness appeared to be greater in the integuments than in the interior. Besides these symptoms, which left no doubt of the nature of the disease, constipation had succeeded the diarrhœa, the tongue was white and moist, the pulse contracted, small, and little increased in frequency, the skin was cool and dry, and the countenance much altered. *Julep with thirty drops of laudanum—iced water for drink.*

25th. The vomitings and constipation continue, and the abdomen though less painful than on the preceding day, will not bear the least pressure; the patient complains of an internal heat, which obliges him to drink almost constantly; there is meteorism towards the hypogastric region, which sounds upon percussion; the pulse is very small, and not increased in frequency, eyes sunken, the face covered by a cold sweat, cold extremities, intelligence unimpaired. *Twenty-five leeches to the abdomen, the warm bath was directed, and in the evening sinapisms to the feet.*

26th. Although the nausea, vomiting, and constipation still continue, the warmth of the surface has returned, the pulse is smaller and more frequent, the face is no longer covered with sweat, the tenderness of the abdomen diminished. *Blisters to the thighs.* The patient died the following morning.

Dissection.—The pelvis was filled with a flocky purulent matter, and the intestines were covered with extravasated lymph, which adhered to them slightly; these products of inflammation extended to the superior and lateral parts of the abdomen, though the peritonitis had been more intense in the lower portion. A small opening, not larger than a lentil, was found in the ileum, a few inches above the ileo-cœcal valve; the mucous membrane was neither thickened nor altered in any manner; two or three small perforations were observed in the great intestines, and five or six projecting points were with difficulty recognized; the consequence of inflammation of the glandular Peyeri.

From the Annal. de la Med. Phys.

CASE OF ACUTE GASTRO-ENCEPHALITIS, *accompanied with symptoms of Hydrophobia.* By Dr. Richard.

Alexander Fessier, five years of age, of a good constitution, and endowed with a very lively and irritable disposition, was attacked in the beginning of May, 1823, with the ordinary symptoms of acute gastro-enteritis, which was treated by Dr. Bougarel with anti-

phlogistic beverages, and the application of eight leeches to the epigastrium. The irritation was removed, and the child apparently convalescent, when after a sleep of some hours on the night of the 12th, he awakened suddenly in a violent paroxysm of laughter, followed by loud cries and convulsions of the whole body. The countenance of the little patient was very animated, his eyes wild and brilliant, and he endeavoured to seize and bite all who approached. M. Bougarel was immediately sent for, and I attended with him at 2 A. M. An intermission of the more violent symptoms had taken place; the child lay upon his back in a state of unconsciousness, the eyelids were closed, and the eyes rolled beneath the superior palpebræ, they were very sensible to the light, and the pupil much dilated, skin hot, pulse contracted, hard, and quick; the carotid artery pulsated strongly. There could be no doubt respecting the nature of the disease, and the severity of the symptoms demanded an energetic treatment. Twelve leeches were applied over the jugular veins, sinapisms to the feet, and cold applications to the head. We left directions that the wounds made by the leeches, should be permitted to bleed as much as they would, and saw the patient again at eight in the morning.

The scene was then much changed, and our little patient apparently on the verge of existence; his skin was pale and cold, pulse imperceptible, and respiration alone gave evidence of life. This state of exhaustion arose from an excessive hemorrhage, which had followed the application of the leeches. It was arrested as speedily as possible, and by means of warm stimulating frictions, assisted by an injection into the stomach, of some spoonfuls of warm broth, the child was resuscitated, the temperature was restored, and the pulse beat 125 to 130 a minute. The stimulants were then discontinued, and gum water and other demulcents used in their stead. The night of the 13th, and several of the succeeding days, were passed in alternations of quietness and exacerbation, four slight paroxysms occurring in the twenty-four hours; the countenance still continued very pale, and the pupil much dilated. From this period the patient gradually recovered, and by the 22d May, when I ceased my visits, convalescence was completely established, some difficulty of articulation still remained, and there was also an inability to use freely the inferior extremities; these symptoms however, gradually disappeared, and in the following month the child was restored to its former health.

CASE OF STRICTURE OF THE ŒSOPHAGUS.

John W., æt. 37, of a sallow and unhealthy appearance, complains of pain and sense of contraction in the situation of the œsophagus, at the upper part of the sternum. On attempting to swallow, these symptoms are much aggravated, and the food, if taken in any considerable quantity, is completely prevented from descending into the stomach, and immediately rejected by vomiting. Those solids which are of a very compact nature he cannot swallow at all; and those of softer consistence, if taken in large quantities, only partially descend. Even fluids quickly swallowed, will not pass entirely into the stomach. When the food is arrested in its progress down the gullet, he experiences much pain; and when the inverted action takes place in that tube, to expel it again from the mouth, it is quite agonizing.

His general health has suffered much from this complaint, which commenced three months ago. His stomach and bowels are frequently deranged, and being imperfectly nourished, he has become weak and emaciated.

On introducing a probang into the œsophagus, a firm stricture was discovered at that part which lies immediately behind the cartilages of the larynx. The contraction is about an inch in length, and the calibre of the œsophagus is reduced to a small size.

This case, which appears to be one of contraction, depending on the effects of inflammatory action, without any carcinomatous tendency, has been much relieved by the application of leeches to the neck, the use of calomel, and the occasional employment of the probang. The disease is now so much better, that the patient can swallow any solid food, although he still experiences some pain, and a sense of spasm, when it passes over the diseased surface. The case bears a striking analogy to the simple, or, as it has been denominated, bridle stricture of the urethra.—*Lancet.*

From the Lancet.

CASE OF SCIRRHOUS CONTRACTION AND ULCERATION OF THE ŒSOPHAGUS.—*Interesting post-mortem examination.*

M. Sache was admitted three weeks ago in a very weak and emaciated state, and with that peculiar sallow and anxious countenance, which almost invariably attends carcinomatous disease, for an almost complete obstruction to the swallowing of food, which, as soon as it had passed down a certain length in the œsophagus, was immediately rejected with violent, painful, and spasmodic vomiting. She complained of constant and acute pain in the situation of the lower dorsal vertebræ, to which point she referred the obstruction, through which no solid could be transmitted, and frequently not even the thinnest fluid. Her respiration was perfectly natural, and no tumour could be detected at any part of the chest, or in the situation of the cardiac or pyloric orifices of the stomach. Her general health had suffered much. She was continually under the influence of febrile excitement, and (to use her own expression) had

become a perfect skeleton. Stated, that two years ago, she for the first time, and without any assignable cause, experienced a slight degree of difficulty in deglutition, which gradually, though at first very slowly, increased; and was distinctly referrible to the lower part of the œsophagus. During the last few months this obstruction had proceeded to its present complete state with alarming rapidity, and the pain, febrile symptoms, weakness, and emaciation, had increased in a corresponding degree. She had tried every kind of internal remedies at different times without the least benefit, opium being the only medicine which afforded her any relief. On passing a small bougie down the œsophagus, a very firm contraction was discovered near its lower part, through which no instrument could be introduced into the stomach. After the use of the bougie; she experienced a very severe degree of pain, accompanied with nausea and vomiting. The bougie was used several times, but without passing through the obstruction, and it caused much pain and uneasiness; its employment was therefore given up. She was ordered to swallow as much beef tea as possible, and had frequent doses of laudanum; but she would not consent to receive nourishing enemata, which Mr. Wardrop recommended. She was able occasionally to swallow a small purgative pill. In this state she continued gradually to sink, and at length appeared to die of pure exhaustion.

On dissection, at which Dr. Barry and Mr. Bennett were present, a very firm contraction of the œsophagus was found at that part which lay on the 10th dorsal vertebra, and which was produced by a thickening of the whole coats of that tube, which had at this point completely lost their natural texture, and had assumed the fibro-cartilaginous structure, which is the sure indication of strumous disease. For two inches below the stricture, the mucous coat was in a state of great ulceration, which at one point had extended through all the coats, and also the layer of the posterior mediastinum, and thus communicated with the cavity of the right pleura. This ulceration was of a very ragged and irregular kind, and the granulations of a greenish appearance, and the sanies, which exuded had a very fetid odour. On the surface of the base of the right lung, corresponding to the opening in the mediastinum, was a small ulcer, which was very superficial, extending only through the pulmonary pleura; around this ulcer was effused a little lymph. No effusion existed in the cavity of the chest, and the lungs were in other respects healthy. The bowels were remarkably empty, and the stomach exhibited that hour-glass contraction which has been described by Sir Everard Home, Wardrop, and others.

It is rather a curious circumstance in this case, that no fluid should have escaped through the ulcer of the œsophagus into the cavity of the pleura.

From the London Medical and Physical Journal.

ACCOUNT OF A FLESHY TUMOUR, *for which the Carotid Artery was tied.* By Charles Mayo, Esq. Surgeon to the Winchester Hospital.

October 4th, 1826.—Emanuel Smith, aged twenty-six, came into the hospital with a tumour just above the right ear, occupying the greater part of the temporal fossa on the frontal, temporal, and parietal bones; a large cicatrix ran across the upper part of the swelling, which was accounted for by his informing me that he had undergone an operation for the removal of the tumour in the Middlesex Hospital, by Mr. Bell, about two months ago. During the healing of the wound, he had a severe attack of erysipelas, affecting the face and scalp, so that all his hair came off. The wound being healed, he was advised to leave the hospital for the improvement of his health, although the tumour had nearly acquired the same size as before the operation.

11th. The present tumour has an elastic feel, as if bound down by the fascia of the temporal muscle: judging by the cicatrix, it appeared to extend much lower than the original swelling, and is disposed to protrude the ear. He suffered but little pain, yet was anxious that another attempt should be made to remove the disease by an operation; therefore, without any flattering promises of success, I proceeded to make a transverse incision considerably below the old cicatrix, and from that a perpendicular cut downwards; then, turning back the flaps, I exposed the diseased mass. The temporal fascia formed a sort of cyst for it in front, which being removed, I endeavoured to turn the tumour out from the bone beneath; but it appeared to be adherent to the cranium, which felt rough, as if from the absorption of the external table. I therefore removed with the scalpel as much of the diseased structure as could be seen or felt: the bleeding was from numerous points, but no vessel was tied, and the cavity was filled with lint dipped in Ol. Terebinth.

12th.—He had passed a good night, and was free from pain.

14th.—The lint and dressings were removed; the cavity was sloughy, and the discharge offensive; therefore, lint dipped in nitric-acid wash was applied, and a poultice over it.

18th.—The wound now looked clean, but from some parts of it portions of fungous substance was seen to protrude, exhibiting the characteristics of the original tumour, which was composed of lobules of a soft and rather brittle substance, resembling what has been described as medullary sarcoma, bleeding when broken, but quite free from pain or sensation.

20th. The diseased surface was rubbed with the Kali purum, which in a few days produced large sloughs, excavating the wound like a large teacup, and, when the finger is pressed into the bottom of it, no bone is felt,

so that it seems as if a little more force would enable one to penetrate the brain.

November 2d.—Undiluted nitric acid was applied, giving no pain, except perchance a drop fell on the sound skin. After a time the kali was again resorted to, and then the actual cautery, but with no other result than keeping the cavity open, and thus arresting the progress of the disease outwards, while it was evident that it spread laterally, burrowing under the skin, and getting down in front of the ear.

January 10th, 1827.—The man's general health has been much improved since he came into the hospital, but the local disease is evidently not to be subdued by any of the means hitherto employed. He was still anxious that nothing should be left untried; therefore I conferred with my colleagues upon the propriety of tying the right carotid artery, with a view to cut off the chief supply of blood to the tumour, and thus procure its destruction, or at any rate to arrest its progress for a time.

20th.—I performed the operation of tying the right common carotid, making an incision about two inches in length, and beginning opposite the middle of the thyroid cartilage. I first exposed the edge of the sterno cleido-mastoideus, which being raised and drawn aside, I could put my finger down upon the sheath of the great vessels, the pulsation of the artery directing me; for two or three small vessels being cut through, kept the wound filled with blood, and in spite of constant sponging, very much obscured my proceedings: however, I went on cautiously, scratching with the scalpel on the tracheal side of the sheath, and at length could get the tip of my finger behind the artery. I then passed a flat silver aneurism needle, armed with a ligature, and protruding its point, on the opposite side, one of my colleagues made a scratch or two on it with the knife; it then passed through the sheath; the ligature was laid hold of, and the needle withdrawn; the artery was then tied in one place only, and the wound brought together with sticking plaster. In the evening he complained of some stiffness and soreness in swallowing, but otherwise was free from pain.

21st.—He had slept well, and took an aperient with good effect. The appearance of the tumour was but little altered; it might be rather softer and paler.

24th.—The nitric acid was again freely applied, supposing that the vitality of the morbid structure might be somewhat diminished, and its tendency to slough thereby increased.

30th.—Large flakes of the diseased growth separated as usual; but this process was not followed by any disposition to healthy granulation.

February 6th.—The ligature on the carotid separated favourably, and the wound was nearly cicatrised; but in a few days it opened afresh, and became very spongy and irritable: it healed at length under the application of the Argent. Nit.—Hydr. Nit. Oxyd. &c.

21st.—As his friends lived in the town, he was now made an out patient, and came to the hospital every morning to have his head dressed for some weeks: lint dipped in nitric acid lotion, with simple ointment over it, was the dressing chiefly used. The discharge was thin and watery, without being particularly offensive, unless allowed to accumulate.

May 2d.—Under this treatment the tumour slowly increased, and at times bled profusely, when by any accident it was scratched or bruised: the man became weaker, and ceased to come to the hospital, being daily dressed at home by one of my pupils. He had now and then a sort of epileptic fit, and the tumour became so heavy that it was too fatiguing for him to sit up. His appetite was good, and all the senses perfect, except at the time of the fit: he was even conscious of its approach, and warned his friends that it was about to attack him on the evening of his death, but he merely turned on the left side, and, becoming comatose, shortly after expired without a struggle.

August 27th. *Dissection.*—The next day I opened the head in the usual way, excepting that, in sawing through the right side of the cranium, I left a large arch of the parietal bone in the vicinity of the tumour. On detaching the dura mater from the surface of the brain, its sinuses were much gorged with blood; the substance of the brain, too, was thickly studded with red points, but no other peculiarity was found on paring off the hemispheres to a level with the corpus callosum. The ventricles were in a natural state. On trying to raise the right anterior and middle lobes from the basis, I found the brain adherent to the dura mater, &c.: when peeled off, the pia mater and substance of the brain appeared to have been absorbed by the pressure of the tumour, which now presented itself, passing through the squamous portion of the temporal and lower part of the parietal bones, and occupying the temporal fossa of the sphenoid bone within the cranium, but closely covered by the dura mater: some small hard tubercles projected from its surface. The bulk of the tumour, projecting externally, equalled in size the two closed fists, extending upon the os frontis and backwards to the occipital bone, pushing the ear downwards, forwards, and outwards to a considerable extent: the whole mass I should think weighed more than two pounds; it did not appear to have any particular connexion with the parotid gland, but extended to the glenoid cavity, and penetrated into the sphenomaxillary sinus, and into the cells of the ethmoid and sphenoid bones, opening into the nose, which accounts for the occasional epistaxis to which the patient had latterly been subject. The zygomatic process was in a great measure absorbed. On slicing off the external part of the tumour, it appeared to be of a uniform consistence, and much firmer than at an earlier period of its growth, so that it might now perhaps be more properly compared to the pancreatic sarcoma than the

medullary. The exact origin of the disease it may be difficult to designate, but it appears to have begun near the insertion of the fascia into the temporal ridge, and must have penetrated the cranium in its early stage, as the excavations which were made by the various escharotics were frequently much below the level of the bone. The fact of the brain being subject to gradual pressure and absorption, without any material injury to its functions, is also illustrated by almost the whole of the middle lobe of the cerebrum being absorbed, and the pressure extending to the verge of the foramina in the sphenoid bone, through which so many nerves pass out.

A section of the tumour, with a portion of the bone that it perforated, are preserved in Mr. Herbert Mayo's collection in Great Windmill street.

From the Medico-Chirurgical Review.

OSTEO-SARCOMATOUS TUMOUR OF THE LOWER JAW.

Henry Roberts, æt. 61, was admitted July 4th, under the care of Mr. Lawrence.

The patient has been subject to slight rheumatic attacks; in the intervals of which he has enjoyed good health.

About fourteen years since a small vascular tumour, increasing in size very slowly, and attended with very little pain, made its appearance on the alveolar process of the lower jaw, in front of the incisor teeth. About two years and a half ago, when it had attained the size of a walnut, it was removed by the knife. Shortly afterwards, it again began to grow, proceeded more rapidly than before, was attended with much pain, and projected both in front and behind the teeth.

The tumour now occupies the alveolar process, and the body of the bone from its middle to the first molar tooth, and consists of two portions, one of which occupies the situation of the gum, while the other rests firmly on the bone. The former is a red and vascular excrescence softish and moveable; while the latter, covered by the mucous membrane of the mouth, is white, cartilaginous in texture, and identified with the bone. The teeth are seated in a furrow of the vascular excrescence, and quite loose.

As the tumour descended nearly to the basis of the jaw, Mr. Lawrence thought it advisable to remove entirely that portion of the bone in which the morbid growth was situated, as being the only effectual method of preventing a relapse of the disease; the patient, however, would not submit to that proceeding, but wished that the diseased parts should be taken away.

The loose teeth having been previously removed, the operation was performed July 13th. The vascular fungous excrescence and its cartilaginous basis were completely dissected away, leaving a semicircular gap in the bone; extending nearly to its basis. In this part the substance of the bone had been converted into a tumour of cartilaginous consistence with numerous small bony spicula projecting into it.

19th. The patient is altogether free from pain and constitutional disturbance. The wound has a perfectly healthy character.

22d. Was made an out-patient, the wound still retaining its healthy appearance, and being considerably reduced in size.

August 10th. Came to the hospital. The wound was healed, and the parts, lately occupied by the tumour, were perfectly healthy. —*Barth. Hospital.*

OSTEO-SARCOMA OF THREE FINGERS.

Treated by Charles Averill, *Esq.*

The patient, Moses Gay, was admitted into the Hospital, July 4th. He gave the following account of the disease:

The tumours began forming when he was about four years old, and continued gradually to increase. The skin on the top of the enlargement on the fore-finger, had been some time ulcerated, showing part of the bony tumour in a state of necrosis, and from which there continued to issue a very offensive discharge. There had been, too, a considerable ulcer on the middle finger for some time past. He was occasionally in the habit of correcting the offensive nature of the discharge by the application of nitric acid wash, which had also excited the exfoliation of small pieces of bone. The disease had, to a certain degree, impaired his general health, in consequence of which he had been several times recommended to have the whole hand amputated, to which he would not consent, as, it being his right, he would have been completely disabled from following his trade, that of a carver and stone-cutter: but, when he was told that his thumb and little finger might be saved, he readily consented.

July 8th. The three fingers, with part of their metacarpal bones, were amputated by Mr. Averill; who, with a straight-bladed bistoury, dissected back a flap of skin from the dorsum of the hand, then carrying the knife between the metacarpal bones of the thumb and fore-finger, separated them from each other, avoiding as much as possible the muscles of the thumb; the soft parts in the palm being divided, the metacarpal bones of the ring and little finger were separated from each other, and the metacarpal bones supporting the disease sawed through with a metacarpal saw.

It may be worthy of remark, that not a single blood-vessel required a ligature after the operation, though the palmar arches must have been cut. Two or three sutures were applied, and the wound lightly dressed. In about three days considerable hemorrhage occurred, which was stopped by pressure. An abscess afterwards formed in the sheath of the flexor tendon of the little finger, which was opened early, and soon healed.

Aug. 10th. He is able to take up and hold small bodies, such as a pencil, &c. and was today discharged.

The weight of the three fingers when removed was two pounds. The cavities and interstices within the bony tumours were in the recent state filled with a substance resembling jelly, in which portions of bony matter were deposited. The diseased bony structure forms a beautiful dry preparation, which is preserved in the Museum attached to the Hospital.

From the Lancet.

EXTIRPATION OF THE NECK OF THE UTERUS.

By Duncan E. Lewis, Esq. Surgeon, Bath.

Having perused in the 21st Number of the Lancet an account of Lisfranc's method of extirpating the cervix uteri, I resolved (malgré the anathemas of Mr. Charles Bell,) to subject the operation to a fair trial the first opportunity. A case of chronic inflammation of the uterus, suspected to be of a carcinomatous character, having opportunely been committed to my care, I wrote to Dr. Blundell, of Guy's Hospital, intimating my intentions respecting the case, and requesting his opinion as to the propriety of an operation. Dr. Blundell, with that zeal for the advancement of surgical science which has ever characterized him, lost no time in visiting my patient; and after a laborious and minute investigation of the particulars of the case, at my desire drew up a Report, which I subjoin, as furnishing a faithful description of my patient's situation, and at the same time a sufficiently minute historical record to preface the operation:—

"Mrs. O——e, æt. 56, labours under enlargement of the uterus, which exceeds the size of a hen's egg; its substance is enflamed, tender, painful, and liable to spasmodic action of the muscular fibre, accompanied with very severe exacerbations of pain.—When examined by the touch, the mouth and cervix uteri are evidently harder than natural; when examined by "Weiss's speculum vaginæ," the os uteri appears bloodshot, irritable, and superficially ulcerated, the ulceration being toward the left side, in front, about as broad as the fore-finger nail; blood issues from the fissure of the os uteri, probably derived from the body, but possibly from the cervix; the womb is moveable; the vagina, through which six children have passed, is so relaxed that three fingers may be introduced with ease; the ovaries are certainly not much enlarged, if at all; the bladder, urethra, vagina, rectum, external organs, are all at present tolerably sound, excepting, perhaps, some little constriction towards the middle of the rectum, not amounting to stricture. The patient's constitution is apparently good, but she is fast wasting under *irritation, discharge,* and *necessary remedial means,* especially the *first;* the discharge is not fœtid; the disease is certainly stubborn, having lasted twelve months, and most probably is not to be subdued by the best known means which have been adopted. I should not be justified in asserting, that left to itself it will not terminate in the malignant ulceration usually called cancer. On the whole I am of opinion, that under the deplorable circumstances in which the patient is placed, the operation recommended by Lisfranc may be performed—may probably be attended with effectual relief of the most distressing symptoms, and is not obnoxious to any risks, which all things considered it would be unwise to incur.

(Signed) James Blundell, M.D.

Bath, August 8th, 1827."

Thus sanctioned, on Wednesday the 15th inst. I performed the operation, in presence of my friend, John Smith Soden, of the Bath United Hospital. The instruments employed on the occasion were,—Weiss's speculum vaginæ (which, by the way, every surgeon ought to possess;) a pair of forceps, constructed for the operation after a model of my own; and a pair of strong curved scissors: this last I was induced to adopt in preference to the curved bistoury of Lisfranc; in consequence of the extreme difficulty experienced in drawing down the uterus. Mr. Turley reports, that in Lisfranc's cases, the os uteri was drawn down below the meatus externus; in the present instance it was impracticable, without using greater violence than would have been compatible with the safety of the patient, to bring the os uteri nearer to the meatus than about an inch. Having, after repeated attempts, satisfactorily demonstrated this, the speculum was again introduced, the os tincæ cautiously but firmly grasped with the forceps, and drawn down to the extent before mentioned, Mr. Soden taking charge of the speculum and permitting it to retire, as the uterus advanced, without withdrawing it entirely; by this contrivance the external parts were kept dilated, and an uninterrupted view of the os uteri maintained. I then withdrew my right hand from the forceps, and carefully retaining the hold I had obtained with my left, introduced a pair of curved scissors, and readily excised the cervix uteri to the extent of at least half an inch. The hemorrhage that ensued was trifling, and my patient has enjoyed a comparative immunity from pain to the present moment.

In my next communication I shall report the progress of the case, and offer a few remarks in reply to the strictures of Mr. C. Bell on Lisfranc's operation.

From the Journal Universal des Sciences Medicales.

CASE OF ACUTE GLOSSITIS. By M. Menard.

Arnessan, a child of eight or nine years of age, was attacked on the 18th September, 1823, with scarlatina, which ran through its several stages regularly. On the 23d, when

I saw the patient for the first time, desquamation of the cuticle had commenced on the arms and alæ nasi. The cervical ganglions were enlarged and painful, deglutition difficult, laborious respiration, acute cephalalgia, and at a later period, there was an exacerbation of the symptoms attended with delirium; the pulse was small and concentrated. Ten leeches to the ancles alleviated these symptoms. 24th. Situation of the patient improved; the tongue is of a bright red colour, smooth, shining, very hot, and slightly swelled. Mild gargarisms were directed, and stimulating applications to the lower extremities. 25th. Same condition; the tongue less intensely red, but rather more swelled. A grain of tartar-emetic was ordered to be given in divided doses; there has been no evacuations from the bowels since the commencement of the disease. 26th. Delirium during the night; the countenance animated, pulse small and easily compressible, tongue whitish throughout, swelled, and renitent; the mucous membrane appears to be detached from the subjacent tissue. Eight leeches beneath the inferior maxilla, removed the symptoms of cerebral irritation.

A decoction of cinchona with muriatic acid was directed as an antiseptic gargle, but proving too stimulating, emollient lotions were substituted. 27th. Swelling of the tongue diminished, the mucous membrane appears to have lost its vitality with its colour, it is insensible to the touch, and the patient is unable to distinguish tastes. 28th. Detachment of the epidermis from several parts of the tongue, leaving the papillæ elevated and red; the mucous membrane is destroyed in many places, and the ulcers which result from this loss of substance, present a grayish aspect, a small quantity of fetid pus is discharged from them. 29th. The tongue is entirely peeled, and of a vermilion red throughout, it is endued with an extreme sensibility, which diminished gradually, but was not entirely removed after the lapse of a month.

London Medical and Physical Journal.

OBSERVATIONS ON THE SURGICAL PATHOLOGY OF THE LARYNX AND TRACHEA, *chiefly with a View to illustrate the Affections of those Organs which may require the Operation of Bronchotomy: including Remarks on Croup, Cynanche Laryngea, foreign Bodies in the Windpipe, Wounds, &c. &c.* By Wm. Henry Porter, A. M. Member of the Royal College of Surgeons in Ireland; Surgeon to the Meath Hospital and County Dublin Infirmary, and to the Dublin General Dispensary; and Lecturer on Anatomy and Surgery in the Medico-Chirurgical School, Park street.

Whatever may be the subject to which an author has paid particular attention, and to the investigation of which he has devoted his labours, it is naturally considered by him of much interest. In the preface, then, to most works, and in that of the volume now before us amongst the number, we find the importance of the subject duly insisted upon, and the necessity of our paying especial attention to it earnestly pointed out by the author. Mr. Porter, however, cannot be accused of attaching consequence to a class of diseases, which are so trifling in their nature, or so simple in their treatment, as not to require the closest and most attentive inquiry. He is perfectly justified in prefacing his work by the observation, that—

"There are few subjects found to present themselves under more interesting features, either to the surgeon or the patient, than those diseases which interfere with the actions of the respiratory organs. Whoever has in himself experienced the slightest difficulty of breathing, or has witnessed its effects on others, must be aware of the intense anxiety that such diseased action creates: and when we recollect that in no case can the surgeon more completely or more decidedly display the efficacy of his art,—that he is sometimes enabled to restore the patient from a state of fearful distress to one of comparative tranquillity,—and that, in many instances, he may suddenly snatch him from the jaws of inevitable destruction, we shall not hesitate to acknowledge the importance that attaches itself to this part of surgical science." (P. i.)

Having admitted, then, the fair claim which the author has to the merit of a happy selection of his subject, we proceed to lay before our readers an account of the manner in which he has treated it.

The operation of bronchotomy, and the diseases which may render it necessary, have frequently attracted the notice of professional writers, and several valuable papers have at different times been offered to the public upon the subject. But amongst these Mr. Porter finds no attempt to arrange those diseases in pathological order, to point out the morbid appearances that are discoverable by dissection, and to connect these with each particular symptom. The great aim of all seems to be to inculcate the necessity of resorting to the operation of bronchotomy, and to show that several of those who have been suffered to perish in a miserable state of suffocation might have been thus preserved. But, even if the operation be had recourse to, success is far from certain, and an investigation into the causes of these failures ought to be interesting, as every unsuccessful operation tends more or less to diminish the confidence of the public in professional skill, and, if the real nature of the case be not understood, to introduce timidity and indecision into the mind of the practitioner himself. However cautiously we would withhold our countenance from the premature and unnecessary performance of operations, we are satisfied, with Mr. Porter, that bronchotomy is too seldom practised, and that, when it is performed, it is generally at a period of disease when its success is impossible.

Mr. Porter introduces his subject with some brief yet pertinent observations upon the inflammation of mucous membranes in general. These remarks bear upon the immediate subject; for, as the larynx and trachea have an internal covering of mucous membrane, inflammation of those parts must be governed in a great degree by the laws which appertain to inflammatory affections of a similar structure in other parts of the body. The symptoms which arise, and the effects produced, will of course be greatly modified by the important functions these parts have to perform. Amongst other instructive observations upon the subject of inflammation of mucous membranes, Mr. Porter particularly remarks, that "it sometimes happens that lymph is found affixed on an inflamed mucous surface; but, *excepting in cases occurring under the age of puberty*, it is very doubtful whether this substance, considered as the product of *acute* inflammation, be coagulated lymph or inspissated mucus." We are not aware that this fact (if such it be) has been before pointed out; neither can we vouch for its correctness. In more chronic affections, membranous layers are often formed, and these our author does not deny to be lymph.

"As, for instance, in the bronchial cells, where, from taking the shape of the parts in which they are deposited, they appear ramified like the branches of blood-vessels, and were of old supposed to be portions of the pulmonary artery. These are called bronchial polypi, and are generally found in patients of an advanced age. But the best example of lymph being produced by chronic inflammation is to be found in dysenteria tubulosa, where whole rings of a considerable length come away, and this so frequently, and to such an extent, as to give rise on some occasions to a supposition that they were large portions of the mucous membrane reduced to a state of slough, and thrown off by the efforts of nature." (P. 10.)

In the child, however, there can be no doubt that lymph is the genuine product of active mucous inflammation, "although it would appear that the inflammation occasioning it is of some peculiar or specific character, and confined in this particular effect to the larynx and trachea alone."

The reason why children should be chiefly subject to disease terminating in this manner, has not, we believe, been hitherto explained; but we would observe, that false membranes may be found in the air passages without the occurrence of croup. For example, M. Nysten published a case, in 1815, of poisoning by the inhalation of ammonia during a paroxysm of epilepsy, the principal effect of which was great inflammation of the mucous membrane of the larynx and trachea, and the formation of a false membrane in the larynx and bronchia.* Mr. Porter remarks, that in hooping-cough "there is good reason to believe," that the mucous membrane of the larynx is more or less inflamed, "and yet rarely an adventitious membrane is formed." As far as we can judge from our own experience, there is always in hooping-cough more or less inflammation of the larynx, and we do not apprehend that a false membrane is ever formed in this disease. In an Inaugural Dissertation published by a German physician of the name of Schmidt, there are some experiments to prove that artificial inflammation, excited in the windpipe of animals, *only produces the adventitious membrane in those which are very young.* In croup, the lymph is sometimes expelled by coughing, and a few cases have thus terminated favourably, when such a result was the least to be expected. "But, on the other hand, this loose and floating substance has been thrown by the violence of the cough against the rima glottidis, become entangled there, and caused the death of the patient by instantaneous suffocation, at a period of the disease and under circumstances otherwise promising a speedy recovery."

In a public discussion some months ago upon this subject, in which we took a part, this fact was denied by several practitioners, who refused to admit that death was ever thus caused in cases of croup. We have, however, no hesitation in agreeing with the opinion of Mr. Porter. And the fact is not unimportant, inasmuch as it would lead us to be careful of giving a decidedly favourable prognosis, although the severity of the disease might be greatly diminished.

Another common occurrence, alluded to as connected with inflammation of mucous surfaces, is hemorrhage without any apparent abrasion or lesion of the membrane. We have seen three or four cases of this kind, in which large quantities of blood have been thrown from the stomach by vomiting, and also passed by stool. Upon dissection, the whole mucous surface of the stomach and intestines presented a dark and pulpy appearance, but no lesion or abrasion could be discovered. The patients, to whose cases we refer, were all much advanced in life, and of debilitated constitution. It appeared as if the capillary extremities had lost their power, and had consequently permitted a large flow of blood to take place.

We have always been of opinion, and our practice has been modified accordingly, that—

"In connexion with the subject of mucous inflammation, spasm constitutes too prominent a symptom to be passed over in silence; for, although it is so far not necessarily connected with the inflammatory action that it may be, and often is, present without it, yet, on the other hand, it so certainly manifests itself on every occasion where inflammation appears, adding considerably to the patient's sufferings, and very frequently causing his dissolution, that it may well be considered as forming an important symptom in affections of this nature. Spasm, however, is not a disease either of mucous membrane or of the submucous tissue; for neither of these structures

* Bulletin de la Faculté de Médecine de Paris, No. 5.

appear to possess within themselves a power of contractility adequate to explain the phenomena of this irregular action; but of the muscles situated around or in the neighbourhood of mucous canals, the natural and healthy uses of which are connected with the functions of them. In proof of which it may be observed that spasm does not occur in the membranous mucous ducts, or in that part of the urethra anterior to the bulb; whilst it is most frequent in those situations where the canals are subjected to the influence of strong, frequent, and irregular actions of adjoining muscles, as in the bulbous portion of the urethra and in the larynx. Whatever can excite these muscles to action will occasionally be the cause of spasm. Sometimes it appears spontaneously, or at least its occurrence will not admit of explanation. Sometimes it would seem to be a sympathetic affection, as exemplified in the spasmodic croupy respiration of children, whilst under the irritation of teething or of deranged digestion; and sometimes it is the result of a more direct stimulus applied either to the mucous membrane or the muscles themselves." (P. 24.)

Whatever may be the exciting cause of spasm, its effects with reference to the respiratory organs are dreadful; in the child, particularly in the infant, they are sometimes suddenly and unexpectedly fatal. Even in the adult state, Mr. Porter is aware of a case in which death could be accounted for in no other manner. It need scarcely be added, then, that in such cases we should employ antispasmodics in conjunction with our anti-inflammatory remedies.

Having given a slight sketch of the principal pathological facts connected with the inflammation of mucous membranes, Mr. Porter proceeds to the discussion of his more immediate subject, which could not advantageously have been undertaken without these introductory remarks; "for, however the respiratory tube may be affected, or in whatever structure the disease may have been originally situated, still the affection of the membrane that lines it will exercise such a decidedly modifying influence on its symptoms that they can neither be understood nor explained without some previous acquaintance with the pathology of mucous tissues."

Besides the numerous accidents to which the respiratory tube is exposed by its situation and peculiar functions, it is also liable to many idiopathic diseases, which, varying in some respects, will still resemble each other in all the symptoms occasioned by simple interruption or derangement of respiration. Mr. Porter does not enter into the consideration of many of these diseases. He confines himself to the surgical department of the subject: "to those accidents and diseases for the relief of which the operation of bronchotomy has been either practised or proposed."

Falling within this description, according to our author, are "idiopathic affections of the larynx and trachea, acute inflammation of the mucous membrane occurring in the child, constituting croup or cynanche trachealis;—spasmodic croup without the existence of inflammation;—inflammation of the submucous tissue of the larynx in the adult, or acute cynanche laryngea;—thickening of the mucous membrane, or chronic cynanche laryngea;—alteration of structure in the laryngeal cartilages, or phthisis laryngea;—sloughing and death of the cartilages;—and the pressure exercised by abscess or tumour in the neighbourhood of the windpipe, obstructing the passage of the air." (P. 27.)

We believe that cases of "spasmodic croup without the existence of inflammation" are sometimes fatal to infants; but we apprehend that in such instances the attack is genrally so very sudden, so entirely unexpected, and so speedily destructive, that the operation of bronchotomy can rarely, if ever be performed in time to save the patient.

The author gives a very correct practical view of the nature and treatment of croup; and, with respect to bronchotomy, he observes that there must be great difficulty in distinguishing the cases in which the operation is likely to be attended with success; for very frequently the inflammation commences in the bronchial cells, and proceeds upwards in the windpipe.

"This is an affection in which an operation could not possibly be of service, and there is no mode of distinguishing accurately as to what has been the original seat of the disease. This one consideration must involve every case in obscurity, and render the success of an operation a matter more dependent on chance than on judgment." (P. 48.)

At the latter stages of croup, it would be absurd to think that an operation could possibly prove beneficial,—

"Unless it could be supposed that a wound of the windpipe could remove cerebral congestion; and therefore, whenever convulsions have occurred, or that the patient appears comatose or sinking, let no man undertake it as a last resourse; for it is a resource that will avail him little, and, after his patient's death, he may esteem himself fortunate if a great part of the blame is not laid to the account of himself and his knife.

"It will be necessary to draw a distinction between the struggles a patient may make to free himself from some obstruction in the windpipe and the convulsions just alluded to; for in both cases the patient's countenance will become dark and purple, his eye suffused and staring, and his respiration heaving and laboured; and both these affections occur at a late period of the disease. If the inflammation is about to subside, and to terminate in an extensive effusion of mucus, the the patient's struggles to relieve himself from the oppression naturally created by the accumulation of fluid in the respiratory tube, must be not only distressing but injurious, and may prove fatal. In this case an operation, which will afford a clear and easy passage for the fluid, will probably be followed by the hap-

piest consequences; or if there was reason to believe that, on the total subsidence of the inflammation, the membranous lymph existed in the trachea purely in the condition of a foreign body, an opening which would afford means for its easy expulsion might also be judicious. But it is unfortunate that no symptoms exist, by which a practitioner can positively establish the propriety of his operation: there are in both these forms of disease the same cough,—the same difficult respiration,—the same struggles to inflate the lungs, and to free the air passages from the impediments that are within them. To these sources of difficulty may be added, that any obstruction to the air cannot endure long without the lungs becoming loaded and oppressed, and therefore if the operation is not performed almost at the exact minute between the subsidence of the inflammation and the commencement of the effusion, it will scarcely be successful. Thus it happens that, in the great majority of cases, when bronchotomy has been performed, the patient finds himself wonderfully relieved; great quantities of mucus are expelled by the wound; respiration is free; and a surprising degree of tranquillity seems to be suddenly obtained. But the calm is only deceitful. In the course of two or three days the patient begins to sink. He is unable to expectorate the mucus, which now accumulates in greater abundance than before. He becomes heavy and languid; is with difficulty roused from this state of stupour, and generally within four or five days after the operation he dies comatose." (P. 50.)

The author does not, however, assert positively that there are no cases of croup that might not be benefited by the operation; but he asks,

"What is the most favourable time for adopting it? and what are the symptoms which will regulate the surgeon's practice? Can any man exactly draw a line of distinction between the varieties of croup, and say that the inflammation in one case had commenced in the bronchial cells, and in another at the larynx;—that in one instance the adventitious membrane had been formed, and in another it had not? Can he distinguish between chronic bronchitis and morbid thickening of the laryngeal membrane? And, if he cannot, is not his operation altogether empirical,—just as likely to work out evil as good,—undertaken without principle where it may do injury, and perhaps abandoned where it might have proved beneficial?" (P. 63.)

Mr. Porter contends, that if it were possible to place a list of those cases in which bronchotomy had not proved serviceable, in array against those wherein it had seemed to be useful, it would scarcely be necessary to advance any farther argument in proof of its uncertainty; and medical men would seek rather to improve their internal treatment, than trust to an operation from which experience holds out such slender hopes of benefit.

Several cases are given to illustrate the pathological varieties generally to be met with in the examination of croupy subjects. In two, the operation of bronchotomy was performed: they terminated fatally.

In our opinion, Mr. Porter has not taken too unfavourable a view of the operation of bronchotomy in cases of croup. That it may afford temporary relief in some cases, we can easily believe; nor do we doubt that a few rare instances have occurred in which it has saved the patient. But still the insurmountable difficulty of distinguishing the particular case, or stage of the complaint, in which it can be presumed to present a rational chance of success, must, we apprehend, prohibit the surgeon from frequently having recourse to it. It has also been fairly urged by M. Boyer, M. Pelletan, Dr. Cheyne, and other authorities, that, as exudation extends through the ramifications of the trachea, and probably even through the lungs, there is but little hope of benefit from the operation.

Laryngitis œdematosa.—Mr. Porter very truly remarks, that it is no inconsiderable proof of the defective state of pathological knowledge in general, that a disease so very fatal as this, and certainly not so unfrequent as to justify ignorance on the subject, should have been, so recently as the year 1808, viewed with all the interest of a new discovery. It is probable that before this period the disease was mistaken for croup.

"The seat of this affection is more in the cellular tissue, connecting the mucous membrane to the adjacent parts, than in the membrane itself, although this latter structure is very frequently found to have been inflamed. This tissue is reticular, and the effect of inflammation upon it is to cause an effusion of serous fluid within the cells, and thus to create, by approximating the sides of the rima glottidis, a directly mechanical obstruction to the passage of the air to the lungs. It is evident now that the danger of such an affection must be proportionate to the quantity of effusion that takes place, and the rapidity with which it is formed, so that a patient may be quickly suffocated by the complete closure of the rima, or he may be left to struggle during three or four days with partially obstructed respiration, and finally perish of congestion in the lungs and brain. When inflammation of the mucous membrane has accompanied this affection, I cannot find any satisfactory examples of its having extended beyond the larynx, and into the trachea; on the contrary, the chief intensity of disease has been in the epiglottis, which is found red, erect, thickened, and swollen, and during life has been seen to resemble a piece of raw meat." (P. 93.)

This disease is occasionally very insidious in its approach. Mr. Porter has known two instances "of young men who had retired to bed at night without complaining, and were found dead from this affection the next morning." We must refer to the volume itself for the symptomatology of this disease. Although by proper treatment we may check

the inflammatory action, we shall not be able to remove the fluid effused in this disease.

"The only manner, then, in which we can reasonably promise safety to our patient, is to procure for him some mode by which respiration can be carried on, other than the larynx which is no longer competent to the performance of its functions, and thus afford time either for the spontaneous subsidence of the disease, or its removal by medical treatment.

"Besides the uncertainty that must prevail as to the precise nature of the morbid action that is going forward in acute laryngitis, and the consequent hazard a practitioner will run of losing his patient whilst he is attempting a treatment that may be unsuccessful, there are many reasons why he should, in the present instance, decide at once on performing bronchotomy. Thus, it allows the organ in which the diseased action is situated to remain in a perfect state of repose. It takes the place of treatment which, besides being injurious from the loss of time, is often in itself positively detrimental. Considered as a wound, it adds nothing to the patient's danger; and as the relief it affords is, at least for some time, complete, it imparts confidence to the surgeon, and allows him more leisure to examine the symptoms, and adapt his remedies accordingly." (P. 100.)

It must not be forgotten, that if effusion into the submucous tissue has taken place, every moment suffered to elapse before an artificial opening is established, must be pregnant with danger. "If, indeed, the operation be not early performed, it had much better be let alone altogether."

Chronic Laryngitis. Under this name Mr. Porter includes "all those affections of the larynx which materially impede respiration, but which commence so insidiously, and proceed so slowly, as often to produce incurable disease before the patient's attention is awakened to the danger of his condition." This is perhaps rather vague and deficient in precision; but, in the subsequent observations, the views given become somewhat more definite. So far as the morbid changes are concerned, Mr. Porter gives his reader to understand, that the mucous membrane may be thickened to such an extent as never to recover its healthy structure; that it may be ulcerated; that the cartilages may be degenerated, that is to say, partially converted into bony or earthy matter, and undergoing exfoliation; or that they may undergo the process of inflammation terminating in mortification. Again, submucous cellular tissue, or that among the laryngeal muscles, or even the cellular tissue exterior to the larynx, may become inflamed, and, terminating in suppuration, prove another though a more remote cause of chronic inflammation of the larynx itself.

The affection, however, to which the name of *chronic laryngitis* is most properly applied, is represented as approaching in the following manner. After exposure, while warm, to cold, humid air; or after great or unusual exertion of the voice, as in long-continued speaking, crying, or singing, the voice becomes hoarse and husky;—in so far as the larynx is concerned, is entirely lost, and may continue so for some days, probably in consequence of an inflamed and slightly thickened state of the laryngeal mucous membrane. Under the use of remedies or spontaneously this generally goes off; but from carelessness or mismanagement on the part of the patient, is reproduced in consequence of fresh exposure to one or more of the original causes. The voice becomes again hoarse, with a dry husky cough, and a sensation of tearing pain about the thyroid cartilage, which is aggravated by attempts to speak above a whisper, or to swallow. In some instances these sensations may be attended with shivering, headach, quick pulse, and great uneasiness in the windpipe during the night. All these symptoms depend, according to Mr. Porter, on a permanent chronic action of the laryngeal membrane, which becomes thickened and more or less red. In this state of matters he has been in the habit of using mercury, he states, with the happiest effects; though he admits, that, where the disease has been of long standing, while the other symptoms disappear, "the power of articulating clearly," he should have said, "the faculty of laryngeal voice" is never again recovered. This suggests the remark, that cases of this kind of disease are found to be more benefited, first by a full bleeding from the arm followed by the repeated application of leeches in the neighbourhood of the *pomum Adami*, with the internal use of antimonial medicines; and secondly, by the frequent use of blisters over the throat, and the insertion of a seton under the skin.

Notwithstanding the use of all these means, however, this disease may go on, and by its obstinacy become highly formidable, and bring the patient into the most imminent danger. From some cause observed or unobserved, the breathing becomes suddenly very difficult and laborious; and, during the ineffectual efforts to inspire, the trachea and larynx are drawn as high as possible on the neck, and the digastric muscles are seen in strong and violent action. The symptoms, in short, are quite similar to those of *laryngitis œdematosa*, (acute laryngeal inflammation.)

In this form and stage of the disease, Mr. Porter thinks bronchotomy particularly called for, and if seasonably employed, very rarely employed in vain. "The disease is caused by a mere thickening of the mucous membrane, without any morbid alteration of structure; but the circumstance of the larynx being in constant use tends to maintain the action that is going forward, and, finally, if not relieved, to produce such thickening of the part as will be incompatible with the maintenance of its functions. It is thus that, creating an artificial passage for the air, operates in promoting recovery; and there is reason to believe that after the operation, the power of nature would be sufficient to work

out a cure, even without the intervention of medicine, merely because the organ can enjoy repose." P. 124.

Laryngeal Consumption, (*Phthisis Laryngea.*) To this head must be referred all the other forms of laryngeal disease enumerated in the last section, viz. ulceration of the membrane, abscess in the submucous or intermuscular cellular tissue, abscess complicated with disorganization of one or more of the laryngeal cartilages, and abscess with mortification of the laryngeal cartilages.

In *abscess* in the *submucous* or *intermuscular cellular tissue*, which is in some cases of the nature termed *diffuse inflammation* by Dr. Duncan, junior, the practice observed by Mr. Porter is that of making a deep incision down to the trachea; and though the matter may not at first be thus reached, it never fails to appear in the wound in the course of a day or two, on the same principle as that which regulated the practice of Dr. Graves. The observations on the usual site of this sort of abscess, and on the mode of ascertaining its presence, are extremely interesting, and deserve the attentive perusal of the surgical reader.

Abscess, with earthly disorganization of the laryngeal cartilages—This severe and generally incurable disease, Mr. Porter regards as the result of a morbid change which the cartilages undergo, according to his observation, about the age of thirty-two, and between that and thirty-six. This process is preceded and accompanied with marks of high organization in the structure of these substances, the section of which, when divided, is then red and vascular. It commences most commonly in the posterior broad part of the cricoid cartilage, near the centre of which a small hard gritty patch, whiter than the neighbouring red part, is deposited. This is progressively enlarged till it occupies the greater part or the whole of the cartilage, when, from its inorganic nature, and the high sensibility of the surrounding and neighbouring parts, it operates as an extraneous irritant, and gives rise to inflammation, which soon terminates in abscess. When the matter is discharged, which it does by several openings, gritty or earthy exfoliations take place; and the copious but fetid expectoration, and bad breath, soon announce the hopeless nature of the malady. The original source of irritation continues to operate; the patient is worn down with cough, difficult breathing, and incessant irritation of the air-passages; and he expires with most of the symptoms of hectic fever.

In this state of misery the business of the medical attendant is chiefly palliative; and the surgeon, though he is assured of the nature of the disease, need scarcely make an attempt to save his patient. Mr. Porter, though he states that he has prolonged a life of misery for a month by performing the operation of bronchotomy, and is aware that others have been still more successful, admits that a small addition to existence procured on such terms is no advantage, and dissuades the surgeon from performing the operation, unless under very peculiar circumstances, and at the urgent solicitation of the patient or his friends.

Abscess, with mortification of the laryngeal cartilages.—Of this Mr. Porter has met with two instances, one of which was acute, and run its course with great rapidity; the other chronic, and proceeded so slowly as to disguise its real nature, till the operation of bronchotomy was performed. The cartilages in this complaint are red, but without distinct vessels in their substance, less dense than in the healthy state, and become spongy by maceration. When the action is completed, they appear black and dissolved like wetted or rotten leather, (p. 117.) This disease gives rise to secondary suppuration of the laryngeal cellular tissue; openings take place at one or more points, in some instances into the œsophagus; and when the air is admitted, the cartilage is seen lying at the bottom of the sore, of a brown colour, shrunk and shrivelled like horn which has been exposed to the fire. The dead cartilage, in such circumstances, emits a most fetid smell, which, though different from that of carious bone, is equally offensive, and is almost pathognomonic of the nature of the disease.

Mr. Porter has not met with any description of this disease by authors; and the two cases which have fallen under his personal observation do not enable him to speak of it with much certainty. As cartilage is not authentically known to admit of reproduction, he infers that the larynx must be permanently destroyed; and that existence can be maintained in no other mode than by establishing an artificial opening during the remainder of life. The wasting and fatal influence of the constitutional symptoms, and of the local irritation, however, hold out no great encouragement to this measure. This conclusion, indeed, is in general applicable to most of those forms of laryngeal disease, which have been shown to give rise to phthisical symptoms.

Foreign bodies in the Larynx and Trachea.—From this accident the utmost distress, and generally the rapid destruction of the patient, follow, if the foreign body cannot be expelled by the efforts of nature, or surgical assistance be not promptly afforded.

"When the accident has occurred to an adult, and he is aware of its nature, the surgeon has only to set about affording him the necessary relief; but it does not always happen that persons, even of advanced age, can tell distinctly what it is that occasions the unpleasant symptoms with which they find themselves attacked so suddenly. In times of hurry, terror, or confusion, or under any circumstance that will induce a man to make a hasty or a violent inspiration, a foreign body held incautiously in the mouth may glide imperceptibly into the larynx, and the first notice of the accident be the terrible cough it occasions. Many persons are so addicted to the silly trick of putting extraneous substances into their mouths, and retaining them there, that they are absolutely unconscious of their presence, and the mis-

chief may so unwittingly occur, that even an adult may be unable to afford any satisfactory reasons for the symptoms under which he labours. But it is rarely amongst this class of persons that foreign bodies gain admittance into the windpipe, but rather amongst children, many of whom are unable to explain its nature or its cause, even if they were aware of it, and who moreover are so liable to be influenced by sudden fright and the dread of surgical interference, that they would be disposed to conceal it, if it was possible." (P. 178.)

Within the last year, two cases have come to the author's knowledge, in both of which, bronchotomy was performed with success. The following case shows the uncertainty with which such accidents are sometimes attended:

"In the month of July, 1822, I was requested to examine the body of a child that had died under circumstances which threw considerable doubt on the nature of the case. On the evening of the day but one preceding her death, she had been playing in the street, when the shaft of a gig or jaunting-car, in pretty rapid motion, struck her, and the bystanders declared that the wheel had passed over her breast. She was taken up, and in a few minutes so far recovered as to be able to walk home without assistance; but from the instant the accident occurred her breathing became croupy. She was, at irregular intervals, teased with an exceedingly distressing cough, and suffered greatly from incessant restlessness, not being able to remain for any time, however short, in one position. This state continued until five o'clock in the morning of the third day, (about thirty-eight hours,) when having arisen for a moment, to allow her father, who had been up all night, room to lie down in the bed, she was seized with a paroxysm of convulsive cough, flung her head in agony on the pillow, and was dead in an instant.

"On examining the body, the thorax was the first part to attract attention, from the circumstance of its having been said that the wheel of a car had gone over it: however, on minute inspection, not a single trace either of injury or disease could be discovered. The viscera of the abdomen were also healthy, and altogether I had never examined a subject so entirely free from every morbid appearance. The trachea was next to be inspected; and in it, or rather in the larynx, was found part of an almond-shell, its rough and broken edge entangled in the rima glottidis, and placed in such a manner that it effectually closed up the aperture for the transmission of air. The nature of the case was now made evident. The child had the fragment of shell in her mouth at the time she was struck, and, either from the fright or the shock, had unconsciously swallowed it, and it passed into the trachea. It was rough and irregular on its surface and edges, and its presence must have occasioned great irritation. There were frequent paroxysms of coughing; and in one of these the edge of the shell was thrown into the rima, choked it up, and the child died from direct suffocation." (P. 181.)

In this case, the existence of a foreign body in the larynx and trachea, had never been suspected, nor did the symptoms warrant such a supposition.

The whole chapter upon the subject of foreign bodies in the larynx and trachea, and the section upon wounds of the same parts, demand especial attention. They are cases in which the utmost decision is required. The loss of a little time will frequently be the loss of life to the patient.

The space we have devoted to Mr. Porter's volume is a sufficient proof that we think very favourably of its merit. Every practitioner must be interested in acquiring the best information upon the important subjects he has discussed, and the work will no doubt meet with very general attention.

From the London Medical and Physical Journal.

EXTRA-UTERINE FŒTATION. *Case in which the Bones of a Fœtus were passed through an Opening in the Abdomen, by which aperture the Catamenia afterwards flowed.* Treated at St. George's Hospital, by Mr. Gunning.

March 5th, 1823.—Elizabeth Allerwell, ætat. twenty-eight, was married twelve years ago, and had a child four years after, born in the eighth month of pregnancy, which only lived two days. Her medical attendant told her she was made "very strait," on which account it would be well for her not to become pregnant again. Four years after she again fell with child, and expected to be confined in July 1820, but, at the end of the seventh month of her reckoning, the breasts became flaccid and (to use her own expression) she "lost life," the child having previously been very lively. She did not menstruate during the first seven months, but at this time a discharge apparently menstrual came on, and has returned at regular periods ever since; so that the catamenia appeared at the end of the seventh, eighth, and ninth months of this last pregnancy. For the first seven months she was very sick, and otherwise out of health, but during the last two months she felt much better, and did not increase in size. At the time she expected to be confined, she had labour-pains, returning at regular intervals, and in all respects corresponding to what she had experienced during her first confinement, except that the child did not descend into the pelvis. The pains ceased at the end of the third day, when her health improved; menstruation came on at the end of the month, and she continued free from complaint till June 1821, the tumour in the abdomen remaining exactly of the same size.

At this period she was suddenly seized, while engaged in hay-making, with twisting pain in the tumour, which became so violent as to induce her to come to St. George's Hospital in July, where she continued till September of the same year. The treatment

consisted chiefly in the application of leeches and other means calculated to alleviate the pain.

In the following May (1822,) she was again admitted into the hospital for a few weeks, the centre of the tumour having become dark-coloured, with return of pain. A small quantity of yellow matter discharged itself through the umbilicus, but the opening presently closed again. A second opening took place two inches below, which continued ever since to discharge in varying quantity; but no collection of matter, as in an abscess, ever appears to have formed. The pain has diminished since the swelling burst, but has always existed in some degree, particularly about the right iliac region. Her health has been tolerably good, so that she has never been prevented from taking exercise till the present time; but, when she stands up, she feels the tumour press towards the opening, and she has a good deal of bearing down in voiding her urine. The swelling is of considerable size, of different degrees of hardness, and irregular in shape, although it approaches to that of a circle. The skin is attached to it, and is of a dark red colour for some extent round the orifice. Menstruation is rather copious, put not painful.

February 1823.—About a month ago the discharge became dark-coloured and offensive, and a portion of bone could be felt projecting. A small opening was made (March 12th,) with a probe-pointed bistoury, sufficient to extract this, which was evidently the transverse process of a vertebra. Next day another small portion of bone was removed, of the same shape and appearance. Sponge tent was introduced once or twice, but gave her considerable pain. By the end of the month, nine pieces of bone, of the same size, had been extracted.

April 20th.—No bone has been detached for the last three weeks, though some can be felt with the probe. Her health continues pretty good, but she has become rather thinner since her admission. She is allowed nourishing diet, with wine, &c.

May 23d.—Within the last three weeks, considerable progress has been made: the bone so long felt adhering to the soft parts proved to be one of the ribs, which was extracted entire, since which time several more have been removed, making in all thirteen pieces of vertebræ, ten ribs, and one entire scapula. Several portions of the soft parts of the fœtus have also been taken out. All the bones look as if macerated, the cartilages being quite absorbed. Three days ago, two small incisions were made with a bistoury, to allow of the extraction of the scapula, and slight dilatation has been made with Weiss's dilator. The wound is drest with oil and lint, and a poultice over it. She does not suffer from the operation, so that, for the last week, some portions of bone have been removed every day.

June 13th.—Some irritation has been excited latterly by the bones of the head, which have stuck in the wound. A small opening has been made, to allow the occipital bone to pass; after which the others were removed without much difficulty.

20th.—The tumour has diminished considerably since the extraction of the head, and she is now free from pain. There is a good deal of discharge, but it is easily evacuated by turning her upon the face twice a day. Nearly the whole skeleton has now come away; the parts which remain are principally the bones of the hands and feet.

September 15th.—All the bones which remained at the date of last report were removed by the beginning of August, and the whole were presented by Mr. Gunning to the College of Surgeons. She has gained flesh, and become strong and active,—assisting the nurses: a slight discharge (about one or two teaspoonsful in the course of the day,) continues to ooze from the opening. The tumour is very much diminished in size. A fortnight ago, after five months' suppression of the catamenia, a discharge resembling the menses appeared at the wound. The catamenia have again returned, per vaginam, and are now present, while a discharge apparently menstrual also takes place from the wound. An examination was made per vaginam and the uterus appeared to be in its natural situation, the os uteri of its usual size; the tumour could be felt on the left side, pressing on the vagina.

October 1st.—Menstruation has again returned, and, as before, the discharge passes partly by the abdominal aperture.

1824. March 24th.—She went out a short time ago, at her own desire, with a fistulous opening still remaining. There has been very little discharge, but two very minute portions of bone have been evacuated.

1825. July 21st.—She calls at the hospital occasionally; is much improved in health; the wound is not healed, and the catamenia continue to flow from it at the monthly periods.

1826. April 4th.—Continues in the same state, menstruating regularly, the discharge flowing partly per vaginam, and partly by the opening in the abdomen.

DAS SAUGADERSYSTEM DER WIRBELTHIERE. Von Vincenz Fohmann. Erstes Heft. *Das Saugadersystem der Fische.*

This is the first part of a work on the Natural History of the Absorbent System in the Vertebralia, by Professor Fohmann, recently of Heidelberg, now of the University of Liege. It treats of the absorbent system in Fishes, and is adorned with beautiful lithographic plates; the second part will contain that of Reptiles; the third, that of Birds; and the fourth, that of the Mammalia and Man.

The attention of the author has been for a considerable time directed to this part of anatomy. Six years ago he published an ac-

count* of some researches he had made on the communication between the absorbents and veins. Since that time he has steadily prosecuted the subject; all who have had an opportunity of examining the anatomical collection at Heidelberg, and seeing the beautiful preparations of injected absorbents (lacteals and lymphatics) which it contains, must know the zeal displayed by Professor Fohmann in the pursuit of his object. We may mention that he made a journey into Holland for the special purpose of obtaining more ample opportunities of investigating the anatomical disposition of the absorbent system in the class of animals, the account of which is now given to the public.

Whilst the osseous, the nervous, the respiratory, and the vascular systems have been examined with great care, in an extensive series of animals, the absorbent system, comprehending under this name the lacteals and lymphatics, has been almost disregarded by comparative anatomists. With the exception of some imperfect descriptions of these vessels in a few of the mammalia and in the turtle, our knowledge of the absorbents in the three lower classes of animals, birds, reptiles, and fishes, has remained precisely as it was given to us by the discoverers of this system in these three classes, Monro and Hewson, more than half a century ago. Blumenbach, in his Manual of Comparative Anatomy, merely repeats what they have said; Cuvier does the same, and candidly owns that he has made no addition to this part of comparative anatomy. "Nous ne pourrons en donner, au reste, qu'une anatomie comparée fort succincte, et en grande partie empruntée de nos prédécesseurs, parce que nous n'avons fait, par nous mêmes, qu'un petit nombre de recherches sur cette branche de la science." (Vol. iv. p. 93, *Des Vaisseaux et des Glandes Lymphatiques.*)

The discovery of absorbents in the three classes of animals above mentioned, excited much attention at the time, and a very warm controversy between the two celebrated individuals who respectively claimed the merit of it. The controversy, however, seems to have excited more interest than the subject of discovery; for, instead of its being followed up by the investigations of succeeding anatomists into the anatomical disposition of the absorbent system in other animals than those in which its presence had been ascertained and described by Monro and Hewson, so entirely did the interest cease and the matter fall into abeyance, that a physiologist of the present day has raised a question whether there was any truth in the discovery at all. M. Magendie has presumed to state it as his opinion, "that, although all anatomists since Hewson and Monro have acknowledged that birds, reptiles, and fishes have a chyliferous apparatus, yet he doubts it; and that, referring to his own dissections, he should say that the mammalia and some reptiles alone have a chyliferous apparatus, and possess chyle."

To discover and to inject the absorbents in fishes, are not matters of immediate facility to those not familiar with the subject: it requires great perseverance, considerable practice, and some manual dexterity, to accomplish these objects. We do not enter into the nature of the difficulties, nor the means of overcoming them; but we may mention that, although our author was not long in making himself acquainted with the absorbents of reptiles and birds, yet for some time he was not so fortunate with regard to fishes. It was in vain that he attempted to discover them in the animals of the class which inhabit the rivers in the vicinity of Heidelberg, the Rhine, and the Necker. To attain his object, he found it necessary to go to the sea coast, in order to make the attempt on fishes of larger size. For this purpose he went to Leyden, where he was kindly accommodated with a room in the Zoological Museum, by Dr. Temminck, to whom, with Dr. Boie, he expresses himself grateful for the assistance they afforded him in his pursuits. The first animal he received was an individual of the species Silurus Glanis, and in which he had succeeded in injecting the arteries, veins, and absorbents. He then with less difficulty discovered the absorbents in the torpedo, and soon succeeded in recognizing and injecting the small absorbents of the turbot. Having thus acquired some familiarity with the subject, he did not abandon the hope of being able to discover the same vessels in those species of fish in which he had previously so long sought for them in vain; and, although even now he was not invariably successful on the first attempt, yet, after repeated trials, he succeeded in inflating some twigs or branches, and thus paved the way, from the want of valves in the absorbents of fishes, for their further successful injection.

How much these patient labours, for labour it must be considered, of the German anatomist may be adapted to the character of mind of the great French Vivisectionist, may perhaps admit of question; but, as we have alluded to a declaration of the latter, we extract from the introductory chapter of the former the following paragraph in relation to it:

"How erroneous is the assertion of Magendie, that the absorbents are confined to the superior classes of vertebralia, I have fully convinced myself. Not only have I seen and examined these vessels in the animals in which their presence had been ascertained and descriptions given of them by Monro and Hewson, but I have discovered them in many other orders and species, in which their existence had merely been assumed as probable. I have repeatedly filled the blood-vessels in individuals of various orders of fishes, amphibiæ, and birds, with coloured materials, and, after the most successful injections of the ar-

* Dr. V. Fohmann, Anatomische Untersuchungen über die Verbindung der Sangadern mit den venen; mit einer vorrede Von Fridr. Tiedemann.—8vo. Heidelberg, 1821.

teries and veins, there still every where remained other vessels, having all the characters of absorbents, and which, on the intestinal canal, I frequently saw containing chyle. The number of these vessels on the organs of digestion is innumerable, they envelope them on all sides, and usually form superficial and deep seated plexuses, which in the different classes and orders are differently arranged." (P. 9.)

The individuals of the class of Fishes whose absorbents have been described and represented by Monro, are the skate, haddock, cod, and salmon. Hewson has given a description of the absorbents of the haddock, and, when he comes to those of the intestinal canal, he alludes to the cod, the plaice, and the skate. Professor Fohmann has added greatly to this list, and has examined the subject with more accuracy. His descriptions are taken, and conclusions drawn, from observations on those of the torpedo, the sea-dog, the eel and sea-eel, the pike, the silurus glanis, the sea-wolf or sea-cat, the turbot, the cod, the burbot, the salmon, and the lophius piscatorius. The engravings which he has given are from drawings of those of the torpedo marmorata, the eel, the pike, the silurus glanis, the turbot, the sea-wolf, the cod, and the salmon: they are beautiful representations of the arrangement and disposition of the absorbent vessels in these animals, more especially those of the organs of digestion, and they have a character of truth about them which rendered unnecessary the confirmation of a friend who has seen the preparations from which the drawings were taken, that they are faithful and accurate representations of nature. The author does not pretend that his publication is in any way to be regarded as a complete work on the subject, seeing it treats of the absorbents in but a small number of fishes, yet he has exerted himself to the utmost of his opportunities; and, if we bring the individuals above mentioned into systematic arrangement, we shall find that the genera Raia, Squalus, Murœna, Esox, Pleunorectes, Silurus, Anorrhichas, Gadus, Salmo, and Lophius, constitute a considerable number of orders and species in which the absorbents have been examined, and in which we find them differing almost as much from each other as the species of this class of animals differ.

We cannot enter into a full account of M. Fohmann's researches, but there are one or two points to which we shall venture to call attention. In the first place, then, with regard to the termination,—or we should rather say, the commencement,—of the absorbents, he is at variance with Monro and Hewson, who state that it is by open mouths; and, after giving good grounds for doubting the accuracy of the observations of the former, and showing the fallacy of the experiments of the latter, he states that he never could discover open mouths in the absorbents of the torpedo and sea-wolf, in whom those of the mucous membrane of the intestinal canal can be seen and accurately examined by the naked eye; and as little could he find them in those of other species of this class of animals. He states that these vessels in fishes invariably terminate in blind extremities, *en cul de sac*, at this place constituting tubes of greater diameter than they do a little further from their commencement,—i. e. in their course towards the centre of circulation; and that, in most parts of the body, they here represent pouches or dilatations, which have an internal smooth surface, and an external one having more or less resemblance to the appearance of cellular substance.

As regards the fluid corresponding to that which we are accustomed to find in the absorbents of the digestive organs of the mammalia during the process of chylification, Professor Fohmann states that, although he has directed his attention particularly to this point, he has not often met with it in fishes, probably from the circumstance of digestion and the absorption of the chyle having already terminated when he received the animals, or because the quantity of fat which frequently surrounds the absorbent vessels did not allow the fluids they contained to be recognized. "Still, (he proceeds,) in several instances, I found the nutritive fluid (*Nahrungs saft*) in the absorbents of the living torpedo; it had not the milky appearance of chyle in the mammalia, nor was it transparent, but had a grayish colour." (P. 43.)

It is known that in fishes the absorbents have no valves, with the exception of the places where they terminate in the venous system, and also that there are no absorbent glands. These vessels, however, do not preserve a continuous vascular character throughout their course. Having preserved this for a short distance, they suddenly increase in size, run together, and either constitute or terminate in sacculi or plexuses. The internal surface of these sacculi or plexuses does not present a smooth surface, but a rough irregular one of filamentous, membranous, or cellular substance-like projections; so that what externally appears as one simple sac, is divided internally into several by these lamellæ (*blatchen.*) This is readily seen in the absorbent sacculi (*sangadersacken*) in the vicinity of the stomach and intestinal canal of the eel, and in the absorbent plexuses (*sangadergeflechten*) of the stomach of the torpedo. These absorbent sacs and plexuses, which are not confined to the class of fishes, but are met with in the amphibiæ, are parts well worthy of notice and consideration.

On the subject of the communication between the absorbents and veins, our author observes, that those who have assumed such a communication to exist, do not seem to have bestowed sufficient time on their investigations, and have not gone to work with the caution and precision which this very difficult subject requires. He instances the observations of Lippi* as being particularly liable to

* Illustrazioni Fiscologiche del Systema Linfatico-chilifero Mediante la Scoparta di un gran

this objection, and not at all to be depended on; in truth, they are full of error. The observations of the Italian are asserted to have been founded on examination of the absorbents in man, the horse, and the goose. He represents a connexion as existing between the extremities of the absorbents and extremities of the veins, like that between the capillary arteries and veins, the one kind of vessel passing into, or rather continuing itself into the other. Fohmann, after the most numerous and successful injections of the absorbents in man and the mammalia, has never seen this communication. The circulating system forms a shut circle; the only communication between absorbents and veins is that where the absorbent opens through the coats of the vein, *insertio lateralis;* all communication between capillary vessels is *insertio terminalis*,—the transition of the extremity of an artery into the commencement of a vein. Lippi has represented the absorbents as communicating by means of greater or smaller twigs, branches, and trunks, with the venous system, and that out of the limit of the absorbent glands, those twigs, branches, and trunks opening directly into the vena cava, the internal pudic and emulgent veins, and the vena azygos. Fohmann asserts that, in man and the mammalia, a communication between the veins and absorbents only takes place in the absorbent glands; and that none exists by means of such large vessels, or out of the absorbent glands, as stated by Lippi, who, in fact, has taken veins for absorbents. In the animals in whom absorbent glands do not for the most part exist, in fish, amphibiæ, and birds, we can observe the communication between the absorbents and veins, in different parts of the body, with the naked eye. The absorbents which Lippi represents as proceeding from the under part of the intestines of the goose into the renal vein, are the vessels of whose connexion with the renal or sacral vein, Fohmann gives an account in his small work published six years ago.

A curious circumstance discovered by our author in certain fishes, is that the contents of the absorbents are not all poured directly into the venous system. In the eel, for instance, a branch goes off from the trunk of the absorbent system, representing the thoracic duct, towards a small receptacle in the vicinity of the gills. Out of this globular receptacle proceeds a vessel, which divides into branches; these branches are distributed to the gills, in the same way as those of the pulmonary artery, and from their extremities are returning vessels, which bring back the lymph, in the same way as the pulmonary veins return the blood; the trunk formed by these branches opens into the thoracic duct immediately before its termination in the jugular vein.

We shall conclude our notice of the work by giving the author's view of the mechanism of absorption.

The loose tissue covering the external surface of the origin of the absorbents establishes a connexion between them and the other systems of the body. It forms, as it were, a sort of sponge around them, which, exercising an absorbent power on the matters susceptible of being absorbed, conducts them to the thin parietes of the vascular system, through which they pass. It is not to the fluid that the tendency to penetrate our tissues is to be attributed: on the contrary, it is attracted by those parts whose structure renders them capable of exercising attraction. This act of absorption, then, by the animal tissues, although not an effect of vitality, is indirectly under the influence of the vital powers, as the progress of the fluid, once within the lymphatic vessels, depends on the contractility of living parts, without which progress the continuance of absorption could not exist; just as sponge, once filled with fluid, ceases to attract more until it has been squeezed, and thus re-acquired the power of absorbing. That the absorbents have the power of contracting on themselves, Professor Fohmann satisfied himself by observation in the living ray, where, on opening the abdominal cavity, he found the lacteals less than when the animal had been some time killed, and where, on injecting air or other fluid into them, they did not dilate to the same extent as when the injection was made after death.—*Ibid.*

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summo di Communicazioni di esso col Venoso; del Prof. Regolo Lippi.—Frienze, 1825, 4.

From the Journal des Progres des Sciences et Institutions Medicales.

PNEUMOPHTHISIS CYANOTICA. By Dr. J. Urban, of Bernstadt.

Phthisis Pulmonalis, considered as a morbid decomposition of the organic mass, must be ranked among the maladies, which, notwithstanding the progress of medicine, still furnish frequent and incontrovertible evidence of its insufficiency. Once implanted in the system, it rarely terminates otherwise than in death. How melancholy is the prognosis, when it is complicated with diseases, which of themselves endanger life!

Pneumophthisis Cyanotica, or the blue disease, presents us with a complication of this character. This affection, more particularly observed of latter years, and especially by my respectable preceptor, Professor Schonlein, of Wurtsbourg, has been considered a species of Phthisis, rare it is true, but presenting in its course important phenomena. It has received the appellation of Pneumophthisis Cyanotica or Cyanosis Purulenta.

This disease generally developes itself during puberty, and is distinguished by its course, which is rapid, seldom exceeding three months, by the intensity of the *venous symptoms*, by the quick, lively, and undulating pulsations of the heart and arteries, which are not always isochronous with each other, by the peculiar conformation of Phthi-

sis Pulmonalis, paleness of the face, lividity of the lips, contraction and flattening of the thorax, emaciation and length of the extremities, especially of the arms and phalanges, which are swelled and furnished with incurvated nails. At a later period, catarrhal affections with cough make their appearance, pricking pains in the breast, oppression, expectoration at first bloody, afterwards purulent, and accompanied by hectic fever when the disease has attained its third or fourth stage. It differs from Phthisis Pulmonalis by the rapidity of its course, by the absence of general and local colliquation, dryness of the skin, paucity of expectoration, constipation, and by the early appearance of cerebral affection.

The exciting cause of the disease, the non-obliteration of the foramen ovale of the heart, is found, according to our experience, more frequently among females than males. Inheritance may be considered as a predisposing cause, inasmuch as it is owing to a mal-formation of the heart, susceptible of transmission from parents to children. Individuals labouring under this disease, aneurism, ossification of the heart, &c. ordinarily procreate children in whom the foramen remains open, without that circumstance necessarily inducing Cyanosis. But irritation of the pulmonary organs, produced by the acceleration of the arterial circulation, pneumonia, catarrh, the impoverishment of arterial blood by pregnancy, parturition, violent muscular efforts, &c. &c., are so many causes which may give rise to the disease of which we now treat.

On dissection of subjects who have fallen victims to Pneumophthisis Cyanotica, the brain is generally found engorged with venous blood, and the ventricles distended with serum; the phrenic nerves, or only one of them, indurated, tendinous, and wasted; the heart of a rounder form than natural, without any difference in the thickness of its ventricular parietes. The foramen ovale, the valves of which have a reticulated texture, remains unclosed. The blood of the heart and great vessels is extremely fluid; ulceration of the lungs; the liver larger than natural, generally engorged with blood, soft and clammy, appears to be, together with the lungs, in the condition in which they are found in the fœtus.

If it were permitted to hope for a favourable termination, it could only be obtained by adopting an appropriate mode of treatment, and in scrupulously observing the indications furnished by the disease. But it is necessary in the first place, to remove the cause of the malady, by the obliteration of the foramen ovale, and the consequent establishment of the regular circulation, and this is an object, of which the accomplishment by medicine, is beyond the limits of possibility; although, as we have learnt by experience, nature herself possesses the power of remedying the original mal-formation before the termination of puberty, and of dissipating all the symptoms which may have previously existed. The only province, therefore, of medicine, is to conduct the patient through the period of youth, an epoch during which it is proved that this disease is productive of the greatest danger to life. This may be accomplished in three different ways, namely:

1. *By diminishing generally the necessity of arterial blood in the system.* This indication is to be effected by the most complete repose, by permitting only passive motions, by avoiding all aliments requiring a high degree of oxidation, by a vegetable diet, aqueous beverages, and other similar means.

2. *In supplying the functions of the lungs by means of other organs.* As the oxidation of the blood is very imperfect, or almost impossible in the disease now under consideration, it becomes necessary to supply the deficiency by exciting the action of other organs, between whose functions and those of the lungs some connexion exists. In this view we act upon the kidneys, the liver, and the skin. On the first by digitalis, which has also the property of diminishing vascular action; on the liver by calomel and the neutral salts, in order to remove any obstructions that may exist there; and upon the skin by warm baths, to which may be added hydrochloric acid.

3. *By avoiding every thing which may irritate the lungs.* For this reason we recommend an equable temperature, and endeavour, as much as possible, to prevent catarrhal and rheumatic affections of the breast.

I will now relate a case in which the reader will find all the characteristic marks of Pneumophthisis Cyanotica. Adam Gottlieb, labourer, aged 16 years, born, as he states, of healthy parents, having always enjoyed good health until their death, which took place three years ago, since which period his toilsome occupations have been interrupted by frequent indisposition,—became unwell without any evident cause, in January of the past year. His illness commenced by slight pains in the left side of the thorax, attended with slight cough, dyspnœa, and fever. He was bled largely from the left arm. Though the venesection relieved the pain and difficulty of respiration, the other symptoms remained nearly as before. I saw him January 28, the tenth day of the disease, and recognised immediately the unfavourable character of the disease, by the external conformation of the patient, and in particular by the blue, pale, and livid colour of the face; by the shrivelled and elongated arms, long fingers, swelled at their extremities, incurvated nails; by the flat and narrow chest, quick and undulating contractions of the heart, and by the small and feeble pulse, isochronous, however, with the pulsations of the former.

The patient complained of continual pains in the middle and left side of the thorax; the difficulty of respiration had returned, and increased even to orthopnœa. The patient plead earnestly for relief. The cough augmented rather than diminished by the internal treatment to which he had been subjected,

increased the violence of the pain; hectic fever, tongue covered with a slimy mucus, anorexia, little thirst, no perspiration, bowels somewhat constipated, urine dark and without sediment. The patient appeared indifferent to his fate, and entertained little hope of recovery.

He could unfortunately give but an imperfect account of his former condition. His parents who, according to his statement, had always enjoyed good health, were dead; the father three or four years since, by an apoplectic attack, and the mother a year later, from some unknown disease. He himself had been happily cured of the measles, scarlet-fever, and small pox, and had no other disease until his 13th year, when the death of his parents obliged him to labour for his subsistence. All that he can remember of his early life is, that his parents having remarked the paleness of his countenance, which became livid on the least exertion, and fearing it might terminate in some serious complaint, permitted him no other occupation than spinning. But after his entrance into service, engaged, almost uninterruptedly, in laborious employments, generally in the open air, and in all temperatures,—oppression, pains in the breast, with dry and frequent cough, palpitation, and muscular exhaustion, began to make their appearance, and hindered for a time his customary avocations: he recovered, however, by rest alone, without resorting to medicine. Reflecting upon the symptoms of the disease, I could not doubt that it was a case of Pneumophthisis Cyanotica, while from its mode of developement, its etiology was sufficiently evident. The primitive cause of the disease was a mal-formation of the heart, which by the motions of the body, fatigue, and privations of every kind, had degenerated into Pneumophthisis Cyanotica; and indeed, if the patient had continued the state of repose which he led during the life of his parents, although his health might not have been entire, he would probably not have contracted a disease, the fatal consequences of which it was impossible to avert. In order to remove as much as possible the orgasm of the vascular system, I prescribed an infusion of digitalis, with nitre, sirup of althea, and extract of henbane, to be taken every two hours, and frictions to the breast at like intervals, with a combination of mercurial ointment and oil of henbane. I enjoined a liquid and vegetable diet, a free circulation of air, a state of absolute repose, and gave for drink a decoction of mallows edulcorated with the sirup of the same plant. On the 31st of January the oppression and pain of the breast had diminished, but the cough was still accompanied by sanguineous expectoration, and febrile exacerbations. Contin. Med. Eight grains of calomel morning and evening, to evacuate the bowels. February 3. The sputa, which formerly was only sanguineous, consists now of pure blood, frothy, and of a deep red colour. The cough and difficulty of respiration are somewhat more supportable. To relieve these symptoms, I prescribed every two hours, a spoonful of a mixture composed of sulphuric acid and the decoction and sirup of mallows; and with a view to excite cutaneous action, the warm bath, with the addition of hydro-chloric acid.

After having continued these remedies for some days, the hemoptysis disappeared; from time to time a slight perspiration made its appearance, the integuments became warm, and respiration more free and easy; still, however, the cough and fever continued, with purulent expectoration. At a later period, the condition of the patient appeared to be meliorated; the use of the acid and digitalis was laid aside, and neutral salts and calomel occasionally prescribed to remove obstructions, or augment the secretory action of the liver. The warm bath was employed only at long intervals.

On the 26th March, the hemoptysis had returned to such an extent as to threaten death. Venesection was prescribed, and recourse was again had to the acids, to which the phosphoric was added. The hemoptysis again disappeared, but there still remained a strong predisposition thereto. The copious purulent expectoration, often thick and ichorous, was sometimes mixed with black and altered blood. The oppression re-appeared, the voice became feeble, hoarse, and plaintive, the hectic exacerbations approximated each other; the patient emaciated rapidly,—still, however, notwithstanding his desperate condition, the love of life and hope of recovery, was present till the last moment of existence, as in all the unfortunate victims of pulmonary consumption. The disease now made rapid strides, without other colliquative symptoms than the expectoration, and the patient died in the beginning of May, after having presented evident signs of cerebral affection, characterized by mild delirium, and accompanied with convulsions of the extremities.

Autopsis three days after death.—The brain was engorged with blood, as also the sinuses of the dura mater; a little serum was found in the ventricles, and a slight lymphatic exudation on the surface of the dura mater. *Thorax.*—Partial adhesions between the left lung and pleura. Pulmonary tissue pale, soft, easily torn, and gorged with blood in various parts. Several open abscesses were observed, especially in the upper lobe of the left lung, and here and there others which had not yet discharged their contents. The phrenic nerves were hard and inflated. The left branch of the par vagum entirely reduced to a pulpy consistence. There was serum in the pericardium; the heart preserved its form and natural position; the foramen ovale was open, its margins unequal and reticulated. The auricles were prodigiously distended, as in the fœtus. All the other parts of the heart were sound. The pulmonary artery appeared a little straightened throughout its whole length. The liver was of an enormous size, soft, easily torn, and of a brighter

colour than ordinary. The vena portæ was very small.

All the other organs were in their natural condition.

From the Lancet.

CASE OF PARAPLEGIA, *read before the Lon. Med. Soc.*, by Mr. Iliff.

The patient was a young gentleman of 25 years of age, of regular habits, who became indisposed in the summer of the present year, complaining of a gradual diminution of strength, and of pains about the wrists and ankles, which were not of sufficient importance to prevent him from attending to business. Toward the end of August, he experienced a slight difficulty in voiding his urine, but when it began to flow, its passage was uninterrupted.

On Saturday, the 1st of September, his bowels being rather confined, he took a pill composed of the compound extract of colocynth, camboge, and calomel, and on the following morning, (Sunday the 2d) a Siedlitz powder. His bowels were freely purged; he walked to the Philanthropic Chapel, and afterwards to Fleet street to dinner. He expressed himself as extremely weakened by the purgative, and in the evening he vomited the food he had taken during the day; he found also a tightness about the bladder, and a difficulty in passing his urine, so much so, that ten or fifteen minutes elapsed before it began to flow. The weakness of his lower extremities increased, and a coach being procured, he was removed to his lodgings in Walworth; he got up stairs with difficulty, and at half past ten, P. M., said Mr. Iliff, I was requested to see him. I found he walked with difficulty across his room, and his utmost efforts were scarcely sufficient to enable him to get into bed. The sense of feeling appeared natural; no pain was experienced upon firm pressure being made along the course of the spinal column. The bladder had been nearly emptied by its own efforts; there was still, however, a degree of uneasiness upon pressure being applied over it. His mind was perfectly collected; he had no headach, or any febrile symptoms. I ordered him grs. xx. of the liq. potassæ, and grs. viij. vin. opii in camphor julep every four hours, and directed a fomentation of poppy heads to be applied over the pubic region.

On Monday, the 3d, I found him somewhat more comfortable; pulse natural; no headach or symptoms of cerebral excitement; the urine had dribbled away in considerable quantity. His bowels not having acted, I gave him an alkaline aperient mixture, and some colocynth and blue pill at bed time; the sensibility of the lower extremities natural, but the power over them rather less than the day preceding.

Tuesday, 4th. The power over the lower extremities nearly gone; has had slight pain in his loins; no sickness or headach; pain over the bladder much less; urine still dribbling; but an attempt being made, about four ounces passed in a full stream. The bowels not opened, I therefore ordered some calomel and rhubarb, to be followed by divided doses of a mixture containing ℥i mag. sulph.; ℥i. m. c. &c.; I also directed the spine to be rubbed well with a stimulating liniment.

Wednesday, the 5th. Has had considerable uneasiness during the night along the back and under each scapula, but this immediately subsided upon his position in the bed being altered; the urine still dribbling, but no power to force it away. The bowels not having acted since Sunday, I ordered a clyster of castor oil, senna, &c. to be administered, and requested the aid of my friend Mr. Callaway. We met about two o'clock, and the result of our consultation was, the introduction of the catheter, to be repeated night and morning; the application of a blister of eight inches long and three broad on either side the vertebral column, and the administration of ammonia and cascarilla during the day, with 5 grs. of Plummer's pill night and morning; supporting him with mild nourishing food, and keeping him quiet.

Friday, 7th. Little or no alteration; fancied he felt more tingling in his legs; he has had no relief from the bowels; gave him an increased quantity of the Plummer's pill, and ordered a strong colocynth injection to be immediately administered.

Evening. A portion of the enema came away soon after its introduction, and about 10 P. M. he had a small feculent stool involuntarily passed. Upon pinching his lower limbs, he appeared insensible to more than the mere application of the hand to them; the penis frequently became erect during the last day or so, and of this circumstance he felt but slightly sensible; his pulse was natural, rather increased in strength since the first day of my visiting him. He had no headach or pain in the back.

Saturday, 8th. A watery stool has been passed during the night; has had sleep for five or six hours, and woke refreshed by it. Pulse about 80; not the slightest pain complained of. The *sensitive* power of the lower extremities rather diminished; appetite good; spirits slightly depressed; ordered a continuance of his medicine, and some cal. and coloc. at bed time.

Sunday, 9th, 10 A. M. Has passed a restless night; mind wandering; thirst increased, with hotter skin; tongue rather dry at the point; pulse quieter on my conversing with him. His bowels not having acted, I ordered an injection with ℥iss. compound ext. colocynth, ℥ij. cathartic mixture, &c.

Sept. 18, at 4 P. M. Dr. Back met Mr. Callaway and myself in consultation; the result was, that gr. v. cal. and gr. x. ext. c. c. h. s., with a dose of cathartic mixture, continuing the cascarilla, &c. and mild nourishing diet; the blister to be dressed with simple cerate instead of cerate sabinæ. The bladder being at this time rather distended, the catheter was again introduced, and about a pint of urine

drawn off. The bowels have acted since Monday, and a tolerable feculent stool has been procured. Half past 10 P. M. Has had another small stool; pulse quickened; countenance less anxious; pupil contracts readily on application of light; skin moist; no headach; but a sense of uneasiness that makes him satisfied he shall not sleep well; I directed the application of vinegar and water to the forehead; enjoined perfect quietness in the house; emptied his bladder, and desired him to be turned on the left side for the night, the right hip showing a disposition to slough.

Wednesday, 12th. No change of importance yesterday; on visiting him at half past one, A. M., I found his pulse 120, small and weak; circulation in the extremities but partially kept up; urine dribbling away; continually expressing his conviction that his death would speedily take place. Quarter past 3, Dr. Back, Mr. Callaway, and myself, met in consultation; his pulse extremely weak, 120; answered all questions put to him rationally, although a wildness of expression observable. Bowels not sufficiently open; urine still dribbling away, and collecting in a gut which I had fastened to the penis; he was directed to continue the quinine, to take ext. c. c. gr. v., cal. gr. ii., ext. hyoscy. gr. iv.; 3 tia q. h. ad sedes; mild nourishing diet frequently, and occasionally wine. Quarter past 8 P. M., debility increasing; pulse fluttering, and 164; abdomen getting more tense; urine still dribbling freely, and possessing a very strong ammoniacal smell; bowels not yet open; wildness, restlessness, and incoherency in his appearance and observations. Half past 10 P. M. he had a colocynth clyster, with ℥iss. ol. terebinth given him. About ten minutes after, thought he felt as if his bowels were acting, about ℥iss. of feculent matter brought away; pulse 154; hands and arms cold; legs very warm; about ℥vi. or ℥viij. of water collected in the gut; variable in his mental disturbance, at one time talking rationally for a few minutes, and then wandering from the subject considerably.

Sept. 13. The extremities getting still colder; conversation rational whilst roused, but when left alone wandering; hickup distressing. Ordered ℥ss. sp. æth. c.; grs. x. tinct. opii; m. x. liq. a. sub. camph. mixt. syr. rosa. He became gradually weak, and died at half past 10.

The examination of the body was made by Dr. Hodgkin, forty hours after death. The cranium was rather large and capacious. The dura mater offered nothing remarkable. Its vessels were, perhaps, somewhat more than usually turgid with venous blood. The arachnoid was partially opaque, and remarkably firm. Its external surface was perfectly smooth: beneath it there was a considerable quantity of serous effusion. The pia mater exhibited considerable venous turgescence: supported by the firmness of the arachnoid, it very readily separated in large flakes from the surface of the brain, being quite free from adhesions. The substance of the brain was of a natural consistence. The *spinal canal* was opened through its whole extent. Near the middle of the spine, there was a good deal of blood external to the dura matral covering of the medulla, it appeared to be something more than the mere effect of gravitation after death. The spinal chord, and its coverings, were removed fortunately very entire, and without the medulla having received any contusion. There was nothing remarkable in its dura matral covering. When this was opened, the pia mater was seen throughout to be considerably injected, and the blood in its vessels was of a dark colour, for the most part a dingy red; but in two spots, of about an inch and a half or two inches in length, the one about opposite to the eighth dorsal vertebra, the other a few inches higher, it was black, accompanied with a slight greenish tinge. These spots were, at the same time, the most vascular. The medulla appeared to receive considerable pressure from its pia matral envelope, occasioning numerous transverse striæ, and producing a singular and somewhat vermiform appearance. Its consistency was throughout softer than is usual, yet very nearly the whole of the cervical portion, as well as the inferior, at and near its bulbous extremity, presented nearly, or quite, its ordinary appearance. Almost the whole of the dorsal portion was much softer; and, at the parts corresponding to the discoloured and blackened spots in the pia mater, the medullary part contained numerous minute dark coloured ecchymosed points. The most remarkable changes had taken place in the cineritious columns. In those parts of the medulla, which were the nearest to the healthy state, viz. the greater part of the cervical portion, and the lower extremity; the cineritious matter, though but little altered in colour, was *softened*—and, in the latter, nearly broken down. In the before mentioned parts of the dorsal portion, the change was carried so far as to have produced the appearance of a cavity, with such an admixture of black matter with the softened substance, as to produce a deep, but not uniform gray. Some spots were nearly black. Though this state was most remarkable in those situations in which the pia mater had likewise assumed a blackish colour, yet it extended beyond them, and existed to a greater or less degree throughout the dorsal portion. The consistence of the most softened portions was similar to that of *cream*. The mucous membrane of the bladder was generally of a deep livid colour. It was corrugated; and the rugæ, which were of a lighter colour, being of a dirty yellow, had a harsh and firm feel. The prostate was of a dark colour. The cellular membrane, in the immediate neighbourhood of the bladder, was tender and lacerable, with some puriform sanguinolent effusion at the anterior part.

In the discussion which followed in the society, Dr. Johnson remarked, that the softening of the brain and medulla spinalis as the

result of inflammation, was established by innumerable dissections; and all the symptoms related, confirmed him in the belief that the above was a case of *spinitis*. Mr. Callaway had stated, that he knew of no similar case on record; but *Ollivier*, in his work on diseases of the spinal marrow, has described many analogous ones, where inflammation of this organ had been followed by paralysis of the parts, supplied by the nerves passing out from below the affected portion, and where softening of the structure of the spinal marrow had been found on dissection. Entertaining such views of the pathology of the case, he should certainly have been induced to direct leeches to the spine, and probably, also, to have abstracted blood by cupping in the early stages of the complaint.

Mr. Iliff said that he had been induced to adopt the treatment he had mentioned, in consequence of the advantages stated to have been gained by producing ptyalism in a case reported in THE LANCET, from St. Thomas's Hospital. That man was admitted for a glandular disease; and after he had been in the hospital about a fortnight, he began to feel a loss of power in his lower extremities, which went on increasing until he was unable to walk from the bed to the closet. There was also a retention of urine in that case; and, according to the report, the only thing which appeared to produce any well marked relief, was the free use of calomel pushed to salivation. As far as regarded the application of leeches, or the use of cupping glasses, he should abstain, at present, from saying any thing about them. As Mr. Callaway had seen several cases of this description, Mr. Iliff hoped that he would be good enough to state what he knew of them.

Mr. Callaway differed from Dr. Johnson, by supposing the paralysis, in this instance, to arise from effusion into the spinal sheath, and not the result of inflammation of the medulla or its theca, as stated by that gentleman. His reasons for thinking so were, that it was not preceded by any injury of the spine, and that the appearance of the patient was more like that of a man suffering from effusion simply, than from inflammatory action. With regard to the application of leeches, he did not think that much good was to be expected from them in such cases as the present, and he was led to adopt this opinion, from the example of a previous case which had fallen under his notice. The patient was a barrister, who had recently returned from the circuit; he had been much fatigued by the journey, and circumstances soon after occurred to induce him to take up his residence in the King's Bench. He complained of an inability to move one foot over the other, and said that he was continually tripping his toe against trifling irregularities upon the floor. He felt a difficulty in voiding his urine, and afterwards gradually lost the power of emptying the rectum. In this state of things, he was requested, for the first time, to see him. He had no pain on pressure being made on the spine, nor were there any symptoms of fever. As this was the first case of the kind he had seen, he requested Sir Astley Cooper to see the gentleman with him, who said that he had only once seen such a case. Sir Astley stated, that he had once visited a gentleman who was paralytic below the umbilicus, in consequence of an injury he had received whilst hunting, which case was very much benefited by mercury. He said, that he considered the gentleman he was then seeing to be labouring under paralysis, from effusion into the theca vertebralis pressing upon the spine; and that as no remedy was so likely to rouse the absorbents as mercury, he recommended two grains of calomel to be taken three times in the day, with calomel and colocynth pills, and a black dose occasionally. After continuing the mercury for four or five weeks, passing the catheter night and morning, and unloading the rectum by clysters, and giving ammonia, cascarilla, and soda as a gentle tonic, he gradually recovered, and is now perfectly well. The recollection of this case induced him to resort to mercury, rather than to abstract any quantity of blood. His experience induced him to conclude, that cases of paralysis of sensation, were generally of a chronic character, but that paralysis of motion was the result of an active disease, arising from effusion of blood, or more violent mechanical injury, and therefore required a more active treatment.

Mr. Ashwell said, that without casting any blame on the gentlemen who had the management of the case, he thought that blood-letting might have been resorted to with advantage in the commencement, and that experience was decidedly in favour of the use of mercury in cases like these, when judicious blood-letting had been previously employed.

From the Repertoire General D'Anatomie, &c.

MEMOIRE SUR QUELQUES ENGORGEMENTS INFLAMMATOIRES QUE SE DEVELOPPENT DANS LA FOSSE ILIAQUE DROITE. Par MM. HUSSON et DANCE.

Among the different affections of which the fossæ iliacæ are from time to time the seat, there are certain inflammatory engorgements, situated most commonly on the right side, and apparently in intimate connexion with the parietes of the cœcum, which, by reason of their complicated nature and diversified terminations, merit a greater share of attention than they have hitherto received. Accompanied by marked derangement of the functions of the great intestines, they sometimes end in a copious formation of pus, which generally makes its exit through the parietes of the cœcum; and, at others, give rise to an inflammation which involves the whole surface of the peritoneum. In their investigation of this subject, MM. Husson and Dance relate, in the first instance, cases ex-

emplifying the various forms presented by the disease; secondly, examples of other analogous affections; and lastly, terminate their memoir by some general reflections respecting the treatment. We proceed to lay before our readers, in a form as abridged as possible, a summary of their more important observations.

In the three first cases, all of which terminated favourably, the disease was ushered in by colic pains, which radiated from the right iliac region through the rest of the abdomen, accompanied with vomiting, constipation, tumefaction to a greater or less degree in the right iliac fossa, with tenderness on pressure, &c.; symptoms, which, taken in connexion with those of other cases terminating in suppuration, and the relief consequent upon *hirudination* and other antiphlogistic measures, are referred by the authors, to an inflammatory engorgement of the parietes of the cœcum, or of the cellular tissue on its posterior surface.

The subject of the fourth case had been troubled with transient colics, sometimes followed by diarrhœa, during three months preceding his admission into the Hotel Dieu, 12th September, 1825. At this period he complained of a fixed pain in the right iliac fossa, augmented by pressure, and accompanied with tension and evident engorgement in that region; his pulse was unaffected. Forty leeches were directed to be applied, and were repeated on the two following days, with such success, that the pain entirely disappeared; the swelling and induration however still remained. In the night of the 15th the pain again recurred, accompanied with diarrhœa, the abdomen became generally painful to the touch, pulse frequent, skin hot, &c. Venesection was performed, and forty leeches were directed to the abdomen, without however in any degree arresting the progress of the disease; the tumefaction of the iliac fossa increased, a yellowish tint extended over the whole surface, and the patient died on the 18th. On opening the body, the peritoneum presented traces of violent inflammation, characterized by reddish spots diffused over different parts of its extent, and an extravasation of turbid serum with flakes of coagulable lymph. The cellular tissue on the posterior surface of the cœcum, contained in the space formed by the separation of the lamina of the meso-colon, was found in a state of suppuration; the inflammation extended through the cellular tissue of the pelvis into that of the fossa of the opposite side, which was every where loaded with pus. With the exception of a slight redness in different parts, the stomach and intestines were sound.

In this case, it is more than probable that the inflammation originated in the cellular tissue surrounding the cœcum, for it was in this region that its first symptoms were manifested, and that it subsequently extended to the peritoneum, simulating, by the rapidity of its progress, the phenomena which generally supervene perforation of the intestine by ulceration.

Case 5. *Phlegmonous engorgement of the right iliac fossa, terminating in suppuration and evacuation of the pus through the intestine.*—Towards the latter part of September, 1826, a man, aged 26 years, was admitted into the Hotel Dieu, who had been attacked some days before with dull pain in the right iliac region, for which he was unable to assign any cause, accompanied with tension and tumefaction of that part; there was no fever, and his general health did not appear much affected. He suffered occasionally from colic, and his bowels were constipated. On the 6th day of his entrance, symptoms of acute peritonitis made their appearance, and continued for seven days, notwithstanding the vigorous employment of the depleting system. At the latter period an evident remission was perceptible, and the pulse became fuller and less frequent; the abdomen, however, remained tensive and tympanitic, and a greater hardness and tumefaction was remarked in the right iliac fossa, than in any other point. This became more evident as the general swelling of the abdomen subsided, and presented itself under the form of a large and painful tumour, in which, on the twelfth day, an obscure fluctuation could be felt. The day following, the patient, impelled by an urgent desire to go to stool, voided a considerable quantity (deux verrées) of thick inodorous pus; a slight diminution of the tumour was the consequence, though it was still very painful upon pressure. Matter continued to be discharged, at first pure and in great quantity, afterwards less abundantly and mixed with fæces, up to the 20th day, when it ceased altogether; an indolent induration being all that remained of the tumour. The patient left the hospital on the 4th November, entirely restored to health.

Case 6. *Inflammatory engorgement of the right iliac fossa, followed by the formation of a vast abscess which opened into the intestines.*—A man, aged twenty years, had experienced dull colic pains, especially after eating, for three weeks preceding his admission into the Hotel Dieu, 24th October, 1825. The following were the symptoms presented on his entrance. Pain, tension and swelling confined to the right fossa iliaca, the rest of the abdomen being pliant and indolent; paroxysms of colic, during which, though of short duration, the patient expressed the most acute suffering, defecation rare and difficult, diminished appetite, the pulse was little removed from its natural condition, and there was no augmentation of temperature. *Venesection was performed, and thirty leeches applied over the seat of pain; demulcents, &c.* On the morrow the paroxysms of colic were less frequent and severe, the local symptoms in the iliac region still continued. *Sixty leeches were directed to the part.* 26th. There was an exacerbation of the griping pains, constipation, increase of the tume-

faction, slight frequency of the pulse without febrile heat. *Venesection, twenty leeches to the tumour, purgative enema.* 27th. The engorgement in the fossa iliaca still continued to augment, and assumed a hemispherical form, extending from the crest of the ileum to the pubis and umbilicus; the patient complained of a pulsative pain in its interior, pressure was extremely painful, and the constipation still persisted; the general system was apparently little affected. *A semicupium and some laxative medicine was ordered.* 28th. The increase of the tumour is almost perceptible to the eye; it extends beyond the median line, and presents a hard and circumscribed tumour, not unlike the uterus in the seventh month of pregnancy; a slight fluctuation is perceptible, and the patient is troubled with frequent calls to go to stool, unattended, however, with any evacuation. 29th and 30th, he had four copious alvine discharges, productive of great relief; the condition of the tumour remained unchanged. On the following days the swelling of the abdomen sensibly diminished, receding gradually towards the fossa iliaca where it had originated. The patient having observed a whitish matter in the stools, they were examined and found to consist entirely of pus; the tumour, harder and more sensible upon pressure than before, was now reduced to the size of an orange, and fæces were voided with the purulent discharge; the latter ceased entirely by the 20th, and the patient left the hospital cured. The favourable termination of this case is an example of the resources of nature, where art could do little more than wait upon her operations. The absence of general symptoms proves the local character of the disease, which had its seat in the cellular tissue already noticed as enveloping the cœcum on its posterior surface; the griping pains, constipation, &c. arose probably from the compression made by the tumour upon this intestine, from the interruption of the peristaltic motion, and perhaps also, from the irritation and spasm of this portion of the canal. The seventh case was admitted 16th of September, 1827, under M. Dupuytren, at whose instance, the memoir of MM. Husson and Dance appears to have been written. It does not differ very greatly from that just related, and will not, therefore, require a detailed description; the abscess opened into the intestine on the day of his entrance, and by the 20th he was already convalescent.

Case 8. A woman, aged 36 years, had carried from her childhood a crural hernia on the right side, for which she wore a bandage. Without any appreciable cause, she was attacked with griping pains in the intestines, which appeared to arise from the neighbourhood of the cœcum, and to follow the direction of the colon. Obstinate constipation next made its appearance, accompanied with gaseous eructations, nausea and vomiting, and a hard, circumscribed, and painful tumour, about the size of an orange, was observed in the right iliac fossa; the hernia was formed by a prolongation of omentum, and was partly reducible. With these symptoms she entered the Hôtel Dieu, 10th April, 1826. *Fifty leeches were directed, castor oil, diet, &c.* Several alvine discharges were produced by the purgative, and continued during the succeeding days; the tumour became gradually softer, and terminated on the 21st in a discharge of pus per anum, after which it entirely disappeared, leaving only an indolent induration in the part which it previously occupied. The patient left the hospital on the 9th May, with a complete reduction of the hernia. Although there was evidently in this case no constriction of the omentum at the crural arch, the vomiting, constipation, &c. gave some probability to the supposition of the existence of an internal strangulation, which, however, the subsequent termination of the case proved to be unfounded. Situated exteriorly to the peritoneum, the function of the intestine was deranged by the abscess, in the same manner that empyema disorders the function of respiration.

Many instances similar to the foregoing, have fallen under the observation of MM. Husson and Dance, both in their public and private practice, and in every instance where the abscess opened into the intestine, the termination was alike favourable. In support of this assertion, they refer to M. Dupuytren, whose experience on this subject is in entire coincidence with their own. According to their observations, the fossa iliaca of the right side is exclusively the seat of the malady, a circumstance for which they endeavour to account, from the consideration of the fixedness of the intestine at this part, the obstacle presented by the laws of gravitation to the ascent of the fæces, which here assume an excrementitial character, and the junction of the small intestines by a narrow orifice, circumstances favourable to the *remora* of their contents. This opinion derives further confirmation from the preceding symptoms, denoting disturbance of the functions of the canal, and from the fact, that in many diseases morbid alterations are found here more frequently than elsewhere. It is of more frequent occurrence in males than females, and appertains to middle life rather than to either of its extremes. Subsequent to some irregularities of diet, constipation, diarrhœa, or griping pains in the intestines, and sometimes without any of these precursors, the patient is attacked by violent colics, which, following the course of the colon, sometimes terminate in the vicinity of the cœcum, and at others pursuing a reverse direction, radiate from the latter point to every part of the abdomen. In the greater number of cases obstinate constipation attends, and in some instances vomiting; thus simulating ileus, or internal constriction of the intestines. On other occasions all these symptoms are wanting, and the disease is announced only by pain more or less acute, situated in the iliac fossa. Upon manual examination of this region, it is found more tensive, renitent and salient, than in its natural state; very frequently a hard, tender, and circumscribed tumour may

be felt through the abdominal parietes, apparently reposing upon the cœcum. The patient is much incommoded by constipation, flatulencies, &c. symptoms which result from the mechanical obstacle opposed by the tumour to the passage of the fæces, and sometimes fever makes its appearance; most commonly, however, the constitutional symptoms are very moderate, unless indeed it be complicated with some other disease. The progress and termination of these engorgements are not always uniform; most generally, resolution is the consequence of an appropriate treatment, instituted at an early period; this termination, however, is slowly accomplished, and a deep seated induration remains for a considerable time after. Instances of the rapid extension of the inflammation to the peritoneum, though happily of not very frequent occurrence, are still occasionally met with. It is not improbable indeed, that in some of these cases the disease commences by a local inflammation of this membrane, which is ultimately diffused from the iliac fossa throughout its whole extent. Lastly, the inflammation of the part pursues its progress unchecked by the means employed for its removal; a pulsating pain is felt in the interior of the swelling, which rapidly increases; an obscure fluctuation is perceptible, and the skin covering the tumour preserving its natural colour, the abscess terminates in the discharge of its contents through the intestines. The recovery from this state of things is generally very prompt, notwithstanding the apparent extent of the disease; a circumstance which would induce one to suppose that the ulcerative process had taken place in a part of the intestine most favourable for the evacuation of pus. It appears, moreover, that as the ulceration proceeds from without inwards, the opening produced is sufficiently narrow to prevent the passage of fæces into the cavity of the abscess; the contraction of the parietes of the latter, after the discharge of its contents, may also, by forming around the intestine a covering of condensed cellular membrane, oppose a further obstacle to extravasation.

Among the diseases liable to be confounded with the one we have just described, a variety of *psoitis* is mentioned by MM. Husson and Dance, and four cases are brought forward to set forth their distinctive characters. Deeply seated in the cellular structure which surrounds and insinuates itself between the fasciculi of the psoas and iliac muscles, and confined beneath the aponeurotic expansion which covers them anteriorly; the abscesses consequent upon inflammation of this tissue generally afford sufficient grounds for a diagnosis, in the more flattened appearance and greater diffusion of the tumour, the flexion of the thigh upon the pelvis, the pain attendant upon every attempt to straighten it, and the absence of those symptoms of functional derangement which ordinarily precede and accompany inflammations in the immediate vicinity of the cœcum.

After delivery also, it occasionally happens, that inflammatory engorgements are observed in the iliac fossa of either side, which, though in their situation analogous to the preceding, may originate somewhat differently. Sometimes they will be found developed in the substance, and accurately confined to the direction of the round ligaments; and at others, arising in the cellular tissue interposed between the lamina of the broad ligaments of the uterus, they pass forward, and ultimately appear in the iliac region, under the form of a projecting tumour. An example of each of these varieties may not be uninteresting. A woman, after parturition, experienced a slight pain, accompanied with a sensation of heaviness in the groin and iliac fossa of the left side, increased by exertion, and unattended with fever or any general indisposition. These symptoms had continued for five weeks, when she presented herself at the Hôtel Dieu, with an oblong tumour about the size of a large egg, extending obliquely from the left fossa iliaca towards the groin of the same side, painful upon pressure, and apparently situated immediately beneath the abdominal parietes. Leeches, cataplasms, &c. applied to the swelling diminished the pain, without affecting any diminution of the tumefaction, which remained stationary, until the appearance of the menses, twelve days after her admission; after which it rapidly disappeared.

When it is considered that the texture of the round ligaments is similar to that of the uterus, and that like the latter, they undergo a marked development during pregnancy, there can be no hesitation in admitting, that under these circumstances, they may be also the seat of inflammation and its consequences; a supposition confirmed by the rapid subsidence of the tumour, on the re-establishment of the catamenial discharge; arising doubtless, from the intimate connexion existing between the uterus and its ligaments. It is not always, however, that the influence of this evacuation is so beneficial as in the case just related, and though they rarely terminate in suppuration, a long time frequently elapses before the entire disappearance of these tumours.

A young woman was attacked with the pains of parturition, and brought to bed in the seventh month of utero-gestation; the placenta was retained for some time by the hour-glass contraction. On the fifth day, there was quickness of the pulse, severe griping pains in the intestines, and suspension of the lochial discharge. *Fifteen leeches were directed to the vulva.* Sixth; the pulse small and contracted, hypogastrium tender upon pressure, and motion of the trunk painful. *Venesection, semicupium, &c.* Seventh; the whole extent of the abdomen beneath the umbilicus, was swelled and painful; the tumefaction extended into the iliac fossæ, more especially on the left side. *Thirty leeches were applied.* Hirudination was repeated on the succeeding days, but although it produced an abatement of the fever, and a diminution of the pain, there was an increase of the swelling in the fossa iliaca extending

into the region of the kidneys; hard and renitent in the first instance, it gradually became softer, and an evident fluctuation was at length perceptible. On the twenty-ninth day there was a discharge per vaginam of a large quantity of pus, followed by a temporary melioration in the condition of the patient, affording well founded hopes of recovery. About the commencement of the third month, however, the prognosis was no longer doubtful; the purulent discharge continued, the pulse increased in frequency, and the other symptoms assuming a more aggravated character, the patient died in a state of extreme debility, sixty-eight days after delivery. On dissection, no traces of inflammation were found in the peritoneum, but behind this membrane existed a large abscess, partly filled with a greenish and fetid pus, bounded above by the left kidney, and extending inferiorly between the broad ligaments of the uterus into the pelvis. A circular and blackish opening, three lines in diameter, and situated five lines above the *lower extremity of the neck of the uterus*, afforded an exit to its contents.

It not unfrequently happens that abscesses of this nature, point in the neighbourhood of the vagina; many instances have occurred to M. Dupuytren, who has often predicted such a termination, and accelerated the discharge by an artificial opening into the part. More rarely the bladder is made the medium through which the pus is evacuated; a case of this kind, communicated by M. Marx, terminates the long collection made by our authors.

A young woman was attacked a few days after the delivery of her first child, by an universal shivering, followed by fever, and a sensation of numbness in the leg and thigh of the left side. Severe and deep seated pain in the pelvis quickly made its appearance, accompanied with alternations of heat and cold, intense thirst, constipation, and a difficulty in passing the urine, amounting ultimately to ischury. Venesection, the warm bath, and other measures were unsuccessfully adopted; the pain and fever continued, accompanied by hectic symptoms of an aggravated character, and the constipation was succeeded by a diarrhœa, which reduced the patient to an extreme degree of weakness. An indurated tumour, supposed to have its seat in the ovarium, was observed in the left iliac fossa, which ultimately gave evidence of fluctuation. Five days after her admission into the hospital, there was an abundant discharge of pus mixed with urine, continuing twelve days, during which the tumefaction in the iliac region gradually disappeared, the pain and diarrhœa ceased altogether, the fever moderated, and the patient recovered her appetite. Somewhat later, a fluctuation was felt on the superior part of the left thigh, into which an opening was made by M. Dupuytren; pus in large quantity issued in the first instance, quickly followed by a serous discharge, such as ordinarily precedes the adhesion of the parietes of an abscess. A complete cure was the consequence.

The plan of treatment pursued by MM. Husson and Dance, has been anticipated in the narration of the preceding cases. Notwithstanding that topical evacuations would appear better adapted than general depletion to the management of a strictly local disease, they advise a recurrence to the latter, when there is the slightest frequency and hardness of the pulse, or the least tendency to an extension of the inflammation. In these circumstances, when the local pain is acute, and the spasms very severe, it has appeared to them productive of greater advantage than hirudination, a remark which admits of more extended application than is commonly supposed. As long as the tumefaction and pain upon pressure continue, blood may be fearlessly detracted, while at the same time, the constipation should be removed by aperient beverages and gentle laxatives, assisted by enemata. All drastic cathartics should be sedulously avoided, especially in those cases where the abscess is about to open into the intestine, otherwise a rupture of its adhesions with that viscus and extravasation, may be the consequence. It is unnecessary to add, that the warm bath, fomentations, &c. should be employed, concurrently with the means above indicated, and according to the exigency of the case.

If, however, notwithstanding all our endeavours, the disease continues to advance, and suppuration be inevitable, it will be proper to discontinue the sanguineous evacuations and limit the treatment to the promotion of the peristaltic action of the bowels, while we await that termination. Should a diminution of the tumour coincide with a discharge of pus per anum, a fortunate result may be, in general, anticipated.

A summary of the experience of M. Dupuytren terminates the memoir. 1st. That gentleman supposes, with MM. Husson and Dance, that the cause of the appearance of these abscesses in the right iliac region, is to be found in the obstruction opposed by the narrowness of the opening of the small intestines at their termination into the cœcum, to the passage of their contents; and cites in confirmation of his opinion, fistulæ in ano, and the engorgements occasionally met with in the vicinity of the pylorus, both of which, according to him, result from a similar constriction. 2d. The different termination of similar abscesses situated on the left side, is equally connected with the anatomical disposition of the parts. The sigmoid flexure of the colon, closely invested by the peritoneum, presents an obstacle to their discharge through that intestine and the pus traversing the cellular membrane makes its appearance in front of the thigh. While on the right side, the cœcum deprived posteriorly of its serous envelope, offers much less resistance to its perforation. 3d. Notwithstanding the latter is the most usual result of these abscesses, they sometimes open into the bladder and intestine at the same time, and

occasionally also, through the parietes of the abdomen. This termination is always unfortunate; the orifice being situated in the most elevated part of the abscess, the matter is much less completely evacuated, the entrance of air gives rise to decomposition, and numerous fistulæ are frequently the consequence. To remedy these inconveniences, M. Dupuytren proposes that the patient be made to recline upon his abdomen. 4th. The absence of fæces in the cavity of these abscesses, is ascribed to the continued pressure of the surrounding viscera, which prevents the formation of a vacuum in their interior, to the obliquity of the opening through which the pus is discharged, and lastly, to the suction occasioned by the separation of the parietes of the intestine. 5th. The obscurity attending these inflammations, is not unfrequently the cause of an incorrect diagnosis. M. Dupuytren has known the disease referred to an internal strangulation of the intestine, hepatitis, hysteritis, inflammation of the peritoneum, &c.

ACCOUNT OF A FŒTAL MONSTER.

By John Tucker, Esq., Surgeon.

In the beginning of January last, about 10 A. M., I was summoned to attend a respectable patient in this city, to whom I had been previously engaged in anticipation of her first *accouchement*. Finding, on my arrival, that the process of labour had but just commenced, I did not remain with her long, but took a temporary leave, for the purpose of visiting a lady in the country, who was under my care for a fracture of the thigh. On returning home I found that no message had arrived during my absence; but about eight in the evening my immediate attendance was required; and upon reaching the house I found that for two hours past the pains had been frequent. I now, of course, proceeded to examine into the state of affairs, and found (to my great astonishment) that the part presenting was a large fleshy tumour, of the shape of a heart, possessing a pulsatory motion, or a regular *systole* and *diastole*. I could not help concluding that this organ was actually in the vagina. I also imagined that I could distinguish the auricles, and the larger vessels attached to the ventricles. About 10 o'clock considerable hæmorrhage came on, and the *os uteri* being fully dilated, I endeavoured to push back the tumour, and to get hold of the feet, for the purpose of delivery. In doing this I had no difficulty; but, to my surprise, what I had hardly been able to believe could be *a heart presentation*, turned out to be so in reality!

Of course, the case was one of malformation. The fœtus appeared to be full grown; and there being a division throughout the chest and abdomen, the whole contents of both cavities were exposed to view. The display of the thoracic viscera arose from a separation through the median line of the sternum, which extended to the pubes; the edges of the recti muscles were reverted, as it were, and faced with a white, tendinous border. But the deviations did not end here. The right hand exhibited but one finger, and the left foot but one toe. The umbilical cord made its exit on the back, between the scapulæ.

Immediately on delivery, the child cried lustily, and lived for two hours, during the greater part of which I had the heart in my hand, and witnessed the vena cava returning the blood to its right side, and its reception on the left from the pulmonary vein. The aorta and pulmonary artery were also both distinctly seen, together with their actions.

As all the abdominal viscera were out of the cavity, by simply turning them aside I could see the descending aorta and the ascending cava. In this state of things, and with the probability of the child living some time, is a surgeon warranted in destroying life ?*

I have to regret, that I did my utmost to obtain possession of the preparation, but without success. The subject, however, was seen by other medical gentlemen, and an accurate drawing has been taken.—*Lon. Med. Rep.*

From the Lancet.

SINGULAR DISEASE OF THE LIP.

M. A. W., 17 years of age, of dark complexion, was admitted into Mary's Ward, on the 4th of July, under the care of Mr. Bransby Cooper, on account of disease of the under lip.

The history of her case she gave as follows: from her birth she had a small red spot not larger than a pin's head on the under lip; she was in the act of washing herself, a year before admission, when this said red spot burst out bleeding, and continued in such a degree as to render it necessary to apply to a surgeon, who passed a stitch, or some stitches, through the part. The bleeding was by this means restrained, but an ulcer formed on the lip, to which caustic was applied; subsequently, under the direction of Sir A. Cooper, salivation was had recourse to, and under this the sore on the lip healed. Shortly afterwards the bleeding recurred, the ulceration again began, and went on progressively increasing to the time of admission into the Hospital.

When admitted, there was a cleft in the middle of the under lip, large enough to admit the fore-finger. It had precisely the appearance of the congenital disease, termed harelip; the internal surfaces of the upper two-thirds of the fissure, were quite healed and sound. The lower third, and the bottom of the cleft, which was at the attachment of the lip to the chin, were in a state of ulceration, covered with a yellowish coloured slough, and apparently quite devoid of granulations. The saliva was constantly flowing from the mouth through the fissure; it was painful, but there was no glandular swelling beneath the jaw.

Mr. Cooper directed the application of dilute nitric acid lotion to the sore, and subsequently employed caustic: and when the sur-

* If our correspondent will turn to Smith's *Principles of Forensic Medicine*, he will find a perfectly satisfactory answer to this inquiry.

face became somewhat cleaner, he endeavoured to procure union of the sides by strapping; but, at the expiration of a month, finding that no improvement had taken place, and considering that the ulceration which existed at the lower part of the fissure was only perpetuated or kept up by the irritation of the saliva, he determined on paring and approximating the edges. The operation was performed on the 5th of August; the parts were brought together by means of sutures and strips of adhesive plaster. The patient offered much resistance to the sewing up of the wound, and continued for some time afterwards to cry violently, so that it was feared the parts would be torn asunder. However, nothing untoward occurred until the third day after the operation, when bleeding came on from the wound; and after continuing for some time, was at length restrained; but on the fourth day the bleeding recurred, and the wound now burst open entirely. From this period ulceration of the lip continued, and for a considerable time it had the sloughy appearance which characterized its lower surface previous to the operation, and there was much surrounding redness. Eventually, the surface of the sore became cleaner and granulated; strapping was then had recourse to, that by placing the granulations in contact they might inosculate. This effect was partially produced; but at the period at which this report is written, August 31, there remains a large cleft in the lip, the sides of which, as before the operation, are completely healed, whilst ulceration exists at the lower part over which the saliva dribbles. In point of fact, therefore, the girl is nearly in the same condition as prior to the operation. Mr. Cooper is anxious to make a second attempt at cure, by paring the edges again; to this, however, the patient seems not inclined to consent. She remains at present in Mary's Ward; her case has excited much interest in the Hospital, from the peculiar manner in which the disease of the lip commenced.—*Guy's Hospital.*

From the London Medical Repository.

BIOGRAPHICAL ACCOUNT OF DR. DOVER.

Thomas Dover, who wrote himself M. B., was an eminent quack, about the beginning of the last century. He speaks of himself as the pupil of Sydenham.

In 1708 he went to sea, as second in command to Rogers, the bucanier, on board of the ship to which Dampier was pilot. In this voyage, Selkirk, the original of Robinson Crusoe, was found on the island of Juan Fernandez, who had been left there by those who accompanied Dampier in a former voyage. It appears from the narrative of this turbulent expedition, that Dover was merely a fighting adventurer, being unacquainted with the business of navigation: he had sufficient influence in their councils, however, to be elected to the command of the Manilla ship (the capture of which was the grand object of the expedition;) but this was little more than empty honour; and he seems to have been, in fact, merely the supercargo.

How he became a pretender to medicine it is difficult to discover, for his biography is not attainable; nor can we gather, even from his Physician's Legacy, any account of the *pulvis ipecacuanhæ compositus*, which to this day is familiarly known as *Dover's Powder*. Of the virtues of quicksilver there is enough said; and his practice of swallowing it daily was imitated by certain people as foolish, as he was ignorant and presumptuous. It is said, that the woman who swept a ball-room after he had been in it, used to make money of the mercury she gathered.

In his Legacy he alludes to his capture of Guayaquil, as having occurred soon after the plague had arrived there. The plunderers lay in the churches, and were much annoyed by the smell of dead bodies. In a few days a disorder broke out among them, and in the several ships there were one hundred and eighty men in a miserable condition. "I ordered the surgeon," says this conceited rover, "to bleed them in both arms, and to go round to them all, with command to leave them bleeding till all were blooded, and then come and tie them up in their turns. Thus they lay, bleeding and fainting so long, that I could not conceive they could lose less than 100 ounces each man." This vigorous practice was followed up by oil and spirit of vitriol, "mixed with water, to the acidity of a lemon," of which they were made to drink freely, upon the principle of abating fermentation and preventing putrefaction. He adds, that the mortality did not surpass seven or eight, and that these were carried off by strong liquor, supplied them by their messmates.

That quacks should write books, is not to be wondered at,—or rather, perhaps, it should be said, that they should publish them; and that such books should be full of blundering assertions and gross nonsense, is inevitable; nor does the ancient legacy of Captain Dover depart from family likeness and constitution in these respects: but there is such a mixture of quaintness with his impudent and arrogant gibberish, that in looking through it, one is sure to meet with something that cannot fail to amuse, now that he is known only by name in connexion with a very useful article of the Materia Medica. We shall add a passage or two more from his work, produced when he was about seventy years of age.

He is very inimical to blistering, and speaking of confluent small-pox, says, "One would think, from the new-invented way of curing this distemper by blistering, that this disease must certainly bring its remedy with it; for here is a blister from head to foot, and consequently this confluent kind of small-pox ought to be less dangerous than the other two sorts."

In a variety of this disease, which he terms anomalous, and which is characterized by a more dangerous fever, he affirms, from experience, "that the patient may be blooded every or any day to the 21st." In this disease,

a patient never can recover without a ptyalism, excepting children, who, "never salivate, but have a diarrhœa." Accordingly, "one Mr. Curr had this species of small-pox. No ptyalism coming on at the usual time, I gave him mercury; but that not answering, and he lying, as it were, *in extremis*, I resolved *to make a child of him.*" This was done by purging him daily; in consequence of which he became "a gentleman of 1000*l. per annum.*"

The following story, if true, is valuable; if not, it is worth what the reader pleases:—"Whilst I lived with Dr. Sydenham, I had myself the small-pox, and fell ill on the 12th day. In the beginning I lost twenty-two ounces of blood. He gave me a vomit; but I find, by experience, purging much better. I went abroad, by his direction, till I was blind, and then took to my bed. I had no fire allowed in my room; my windows were constantly open; my bedclothes were ordered to be laid no higher than my waist. He made me take twelve bottles of small beer, acidulated with spirit of vitriol, every twenty-four hours."

Medical and Philosophical Intelligence.

Absence of the Uterus.—Agathè Melassené, aged 27 years, presented herself, 24th February, 1823, for admission into the Hotel Dieu, on account of a fistula in ano. The physician who had directed her to the hospital, in order that an operation might be performed for the fistula, apprized M. Dupuytren that the vagina was imperforate, and that the uterus was wanting. It was ascertained that she had never menstruated, nor experienced the periodical symptoms which announce that discharge. At certain periods, however, she was troubled with heaviness in the head, heat and flushings of the face, and pain in the abdomen; symptoms which were always relieved by the application of leeches to the anus. Upon examination, the external organs of generation were well formed; the pelvis perhaps rather narrower than usual; the breasts well developed; and, in a word, all the distinctive characters of her sex strongly marked. The finger introduced into the vagina, was arrested at the distance of an inch by a cul de sac, beyond which nothing could be perceived indicative of the existence of the uterus. An examination per rectum was equally unsuccessful in the discovery of this organ. The urethra was found much dilated. The woman denied ever having experienced any venereal propensities; but it was ascertained that for the last four years she had lived in a state of concubinage, and had been even upon the point of getting married.

The fistula was divided on the 28th February: the operation was short and simple. A few days afterwards, a violent attack of hepatitis, followed some domestic troubles, and notwithstanding all the assistance that art could render, the patient died on the 15th March.

Upon dissection, numerous abscesses were found in the liver; the peritoneum covering the more superficial ones was thickened. On the superior part of the left kidney, a small cyst was observed, containing a white and inodorous fluid. The clitoris and labia externa were in their usual state; the vagina, as before stated, terminated in a cul de sac at the depth of about an inch; (M. Dupuytren attributes this *enforcement* to the attempts at coition, and supposes that originally there was no trace of a vagina;) above and behind the bladder, the broad ligaments of the uterus were observed, containing in their thickness large fallopian tubes and well developed ovaries. The uterus was entirely wanting. At the place of junction of the two tubes, there was a minute body, (*renflement,*) without a cavity, and in no respect resembling the uterus. The preparation is in the possession of M. Breschet.—*Répertoire Gén. D'Anatomie.*

Urine discharged through the Urachus.—A child, aged two years, eleven months and a half, was brought to the Hotel Dieu, May 14, 1810, presenting the very unusual phenomenon of evacuating its urine, partly by the umbilicus, and partly by the natural route. There was no tumour or ulcer in the neighbourhood of the umbilicus; five or six grooves converged towards its centre, at which opened the urachus, in appearance not unlike the hollow of a common writing quill. According to the account given by the mother, the child was born with an oblong and pendulous tumour at the umbilicus, into the middle of which the cord was inserted; the latter was tied as usual, and compression applied to the tumour. After the detachment of the cord, it was observed that the child passed his urine through the wound, mixed with a small quantity of pus, arising from the ulcerated extremity of the tumour; after a few days, the latter assumed a more healthy aspect; cicatrization commenced; and at the expiration of six weeks, this process was completed. About this period, the mother stated, that the child twice evacuated per anum, at an interval of two days, a considerable quantity of blood, after which the tumour gradually disappeared, under the employment of well regulated pressure; the flow of urine, however, still continued. It appeared that the child had had a congenital umbilical hernia, complicat-

ed with that very remarkable circumstance, the non-obliteration of the urachus; the curative indication was to effect a closure of this orifice, and for this purpose, the reporter avows his preference of the ligature. The termination of the case is not mentioned.—*Répertoire Gén. D'Anatomie.*

Extraordinary Precocity.—In the Algemiene Deutsche Leitschrist für Gebactskunde.—Professor D'Autrepont relates an interesting case of this nature, from which we have extracted the following summary. The subject of the case, was the seventh child of a mother distinguished for her unusual fecundity, having given birth to her seven children in the period of five years; notwithstanding that she suckled all her offspring, she became pregnant during lactation—the catamina were protracted till the fourth and fifth month of gestation. The child at birth measured twenty-three inches (French) in length, and weighed two pounds more than ordinary, was in good health, and grew very rapidly. From the eighth day, the milk of the mother was inadequate to her sustenance, and pap was substituted. Fifteen days after birth, she was observed to have already four teeth. At the seventh month, she had learned to walk, the incisor teeth had made their appearance; and the hair, which was previously of a flaxen colour, became brown, and had grown to such an extent as to fall half way down her back. In the ninth month, after some slight indisposition, the catamenia made their appearance, and the region of the pubis was covered with brown and curled hair. At this period she was thirty-two inches in height, strong, and of a florid complexion, had eight teeth, and evinced all the signs of puberty—prominence of the breast, &c. She already pronounced some words; knew all the objects around her; and was of a lively, communicative, but very irascible disposition. Her corporeal development was perfectly symmetrical; but although her external aspect was that of a child of three years, in intellectual advancement she did not appear to have passed the third of that period. The menses at their first appearance, continued seven days, and recurred regularly at the usual period, till the death of the child in 1818, the twelfth year of her age. From the ninth to the fourteenth month, the rapidity of her growth somewhat diminished, it being only two inches. At the latter period, the four canine teeth made their appearance; and from this moment her increase of stature advanced with accelerated rapidity; when only nineteen months old, she could lift heavy burdens, throw stones to a great distance, spoke quite fluently, and by reason of her irascibility was regarded as the worst child in the village. At the termination of the sixth year, she had acquired a height of three feet nine inches, (Paris measure,) and weighed fifty-four pounds, (Vienna;) her physical force was in proportion to her size, and she was frequently employed by her parents in occupations ordinarily entrusted to children of ten or twelve years. Her moral character remained the same; but though the evolution of her intellectual faculties, did not keep pace with her corporeal development, she was not in this respect behind children of the same age.

In her ninth year, she measured four feet, her breasts were as voluminous as those of an adult, and a perfect symmetry reigned through all her frame; no salacious propensities were observable, and her parents studiously endeavoured to remove from her every thing which might give rise to them. An addition of six inches was made to her stature in the tenth year, and two inches the year following, after which period her growth ceased altogether; she had acquired more taste for domestic occupations, and had become more serious and less irritable than formerly. She died of a miliary fever, in the twelfth year of her age, after an illness of thirty-six hours. Seventy-six ounces of blood were detracted in the course of her disease.

Rapid Death from the stinging of Bees.—M. Bertrand, aged thirty-four years, of a robust constitution, being in his garden in a state of undress, on the evening of the 21st May, was attacked by a swarm of bees, from a hive which had been overturned, and which he was engaged in replacing. The enraged insects pursued him into the house, where M. de Lafayette saw him immediately. He found the patient in a state of great mental and corporeal prostration; countenance pale; respiration feeble and interrupted; pulse scarcely perceptible; skin cold, &c. There was no swelling about the neck. On the supposition that the symptoms arose from suffocation, occasioned, as the assistants believed, by the presence of one of the insects in the trachea, M. de Lafayette, despairing of success from other remedies, *made preparations for the performance of tracheotomy!* It was all in vain however, the unfortunate man expired in ten, or at most, fifteen minutes from the occurrence of the accident.—*Archives Générales de Méd. &c.*

Excision of the Head of the Humerus.—A man was shot in an affray, on the 23d Aug. 1824; the ball entered at the superior portion of the internal margin of the acromion, shattered the head of the humerus, and passed through the articulation. M. Reynaud laid into one, the two orifices made by the ball at its entrance and exit; opened freely the capsular membrane; divided the tendons of the sub-scapularis, biceps, infra spinalis and teres minor muscles, and after insinuating a piece of pasteboard between the extremity of the denuded humerus and the soft parts, removed the former by means of the saw. At the end of three months, the wound had cicatrized; the humeral extremity was separated from the glenoid cavity to the extent of fif-

teen lines, but this distance diminished daily; the patient could carry his hand to his mouth. —*Jour. Générales de Med.*

Treatment of Nævus by Vaccination.—The *Lancet*, September 15, contains a letter to the editor, respecting the case by Mr. Vincent, reported in a preceding number, in which this mode of treatment was tried unsuccessfully. The failure in this instance is attributed by the writer to the improper manner in which the operation was performed.—"M. Vincent," he observes, "merely vaccinated the circumference of the tumour, and as each vesicle produces that degree of adhesive inflammation of the næval vessels and cells, which induces their occlusion only to a certain distance, it is evident that had vesicles appeared, the disease would have been as remote from a cure as though the arm or leg had been inoculated for the same purpose. Each vesicle has a limited sphere of action, beyond which it has no control, and therefore it is necessary to inoculate the surface of the tumour at such distances, as that the inflammation of one shall coalesce with that of another, and thus produce the cure of the whole." The method, which has been uniformly successful in the hands of the writer, is to make slight scratches upon the surface and the circumference of the nævus, at regular distances from each other, and as soon as the bleeding has subsided, to introduce the lymph, generally on the point of a lancet, after which a bit of linen saturated with the matter, is applied, and retained by means of a bandage for a few hours; in the usual time the vesicles appear, and the swelling gradually subsides, leaving behind the faintest possible mark.

If the child has been previously vaccinated, it rarely succeeds, and of course if it have not, besides curing the nævus, it has the same effect upon the constitution as vaccination in the usual situation.. The vaccine lymph is much preferred to the use of tartarised antimony.

Spontaneous Separation of the anterior portion of the Maxilla Inferior; by Dr. Gambini, of Pavia.—Castagnoli Maria, aged 35, entered the civil hospital, 20th September, 1824, with an extensive caries of the lower jaw, resulting from a scorbutic affection, which had continued for a considerable time. Externally, there was a marked swelling around the bone; the gums tumefied and fungous, were ulcerated in different parts, and bled upon the slightest touch. The few teeth that remained were either loose or carious; several alveoli were denuded; a fetid sanies flowed from the mouth; and the patient presented all the characters of general scurvy. After some time, the exposed alveolary margin becoming loose, an attempt was made to extract it, which was effected without difficulty, and the operator was astonished to find that the piece removed comprehended the whole thickness of the anterior portion of the maxilla. The operation was attended with little pain or hemorrhage; the mouth assumed progressivly a better aspect; the interval left by the removed bone, was gradually replaced by a hard and fibrous tissue, and the patient left the hospital, 12th December, entirely cured. —*Annali Univ. di Med.*

Cæsarian Operation.—Professor Graefe has published some remarks on the diminution of danger attending this formidable operation, accompanied by a case in which it was performed with safety, to the mother and child. When the surgeon can choose the moment of its performance, he recommends it to be as near as possible the usual period of utero-gestation, that it may the more closely resemble the operations of nature. In regard to the place of incision, the linea alba is preferred, though circumstances may occur, such as the mal-formation of the pelvis, curvature of the spine, &c. producing a more intimate adaptation of the uterus to the lateral parietes of the abdomen, and thereby justifying a deviation from the general rule. To prevent the protrusion of the intestines, M. Graefe recommends pressure by means of large pieces of cerated sponge, so applied as to leave a free space for the incision, which should be five inches in length for the integuments, and four inches and six lines through the parietes of the uterus. If the placenta be not already detached, he prefers extracting it artificially, rather than leave it in the uterine cavity. Instead of the usual sutures, very soft ribbons 18 lines in breadth, are introduced by the aid of the broad two-edged needle; three sutures made in this manner, are equal to six after the ordinary method. Their operation is assisted by adhesive strips extending round the abdomen, and crossing by their extremities upon the place of incision. The subject of the operation, whose case accompanies the memoir, was a rachitic female, 30 years of age, greatly deformed in every part of her body, and offering at the superior strait a sacro-pubic diameter, of two inches and three lines. The operation was not performed till fifty hours after the commencement of uterine contractions, and lasted only three minutes and a half. No unpleasant consequences supervened, and the woman was discharged cured, at the expiration of two months.

Another case in which the operation was performed with equal success, is related by Dr. Lantz. The antero-posterior of the pelvis at its superior opening, was upwards of two inches and six lines; the other diameters presented nothing remarkable. The operation was performed in the usual manner, two days after the commencement of labour, and the wound had cicatrized at the expiration of five weeks.—*Bull. Univ.*

Hysterotomy.—Professor Solera, of Padua, has recently performed this operation in the

case of a woman, whose os uteri was completely obliterated. Uterine contractions supervened at the usual period, and continued two days, without producing any change in the disposition of the parts. A consultation being held, hysterotomy per vaginam was preferred to the common cæsarian operation, 1st, by reason of the greater danger of peritoneal inflammation, &c. attending the latter; and 2dly, because of the necessity which would still exist, of making a new opening for the lochial and menstrual discharges. The contractions of the uterus continued after the operation, and the head was already far advanced, notwithstanding the resistance afforded by the ossification of the sacro-coxcygeal articulation, when the uterus became exhausted by the violence of its exertions, and it was deemed expedient to have recourse to the forceps. The woman rapidly recovered.

A case is also related in which gastro-hysterotomy was successfully performed, the patient was discharged, cured, on the thirtieth day after the operation.—*Annali Univ. di Med.*

Sigaultian Operation.—In this country it has probably never been tried, where foreigners have deemed it proper that it should be tried. The objections are too well known to admit of recapitulation here. We find, however, that it has been recently performed (and, as report says, successfully,) by *Paletta*, in Italy, on a woman of a rickety constitution, whose pelvis was distorted from right to left,—the *left os innominatum* being seven inches high, while the right was only about five and a half; the diameter from pubes to sacrum (deducting the soft parts) not being more than two and a half. Paletta, in adverting to all the preceding cases of this nature on record, concludes that, in general, a false articulation is formed, which remains during life.—*Lond. Med. Repos.*

Spina Bifida, cured by Puncture.—The child was two months old, and had paralysis of its inferior extremities; the tumour, transparent, fluctuating and painful upon pressure, was situated on the lumbar vertebræ. No operation being deemed necessary at the time, the mother was directed carefully to preserve it from all external injury. Notwithstanding all her care, however, a puncture was accidentally made, which gave exit to a large quantity of limpid fluid; compression was employed, and some days after, the swelling having returned, (though not to its original size, which was that of a large walnut,) it was decided to repeat the puncture; a slight inflammation followed, producing adhesion between the skin and the subjacent tissues; the operation performed the third time, completed the cure, and at the expiration of a year, the diseased portion of the spine had acquired a semi-cartilaginous consistence, and the paralysis had entirely disappeared. The same journal contains another case of the disease, successfully treated by the same means.—*Annali Univ. di Med.*

In the *Zeitschrift für Physiol* M. Soemmering describes a singular case of aberration in the structure of the cranium; each of the parietal bones were divided into two equal parts by a longitudinal suture, with strongly marked dentations in its anterior portion, and furnished with ossa wormiana posteriorly. The mastoid process was also divided in part by a suture, which was much more evident on the left than on the right side. The sagittal suture was prolonged to the ossa nasi. These irregularities did not appear on the internal surface of the cranium, so far, at least, as could be ascertained without the assistance of the saw.

Acephalocyst Hydatids.—Dr. Casini read before the Medical Society of Florence, the case of a woman, who after having taken some purgative medicine, evacuated, per anum, a considerable quantity of these productions. Their expulsion was preceded and accompanied by a tearing sensation, and a formicatory movement, which extended from the right enlarged hypochondrium, to the dorsal region of the same side; spasms of the extremities; flushings of the face; mental depression, &c. A case was also related of a man, in whom, after having experienced a sensation, which he compared to that of a liquid flowing from the back toward the inferior extremities, a tumour developed itself in the right ham, and ultimately discharged a large number of hydatids. From these cases, Dr. Casini supposes may be deduced some diagnostic signs of the existence of these *entozoaires.—Journal des Progres, &c.*

Congenital Absence of the Gastrocnemii Muscles.—A girl, seven years of age, had been affected from her birth with a lameness of the left leg, and in attempting to walk often fell to the ground, as if that extremity were incapable of performing its office in supporting the weight of the body. Upon examination by M. Paletta, the bones were found in a state of perfect integrity; the left heel rounder and more projecting than the right; and the leg very slender, especially near the tibio-tarsal articulation; at its middle and upper portion, it presented a plane surface, evidently caused by the absence of the gastrocnemii muscles and their tendon. Beneath the skin, some tendinous fibres could be felt adhering to the bones, but forming a very inadequate substitute for the tendo achillis. The cause of her lameness, which had hitherto been supposed to arise from weakness or convulsive action of the muscles, was thus detected. Two similar cases are related by the same author.—*Jour. des Progres, &c.*

Five Herniæ in the same person.—The subject of this interesting case, forty years of age,

by profession a founder, presented himself at a public consultation held at the Hotel Dieu, requesting a bandage. Upon examination, there was observed a crural and inguinal hernia on each side, the contents of which could be reduced without difficulty, and re-appeared with as much facility when the pressure was removed; they increased greatly in size when the patient coughed, and each one of them in particular, when the other openings were closed. A tumour of a similar character, resembling an egg in size, protruded from the umbilicus, and could not be entirely returned into the abdominal cavity, by reason of adhesions which it had contracted with its investments.

The patient stated that all the tumours had existed from his earliest childhood. It was evident, however, that the two inguinal herniæ were not congenital, a well marked interval being perceptible between them and the testicles, on each side; his constitution was good, and no inconvenience was occasioned by the tumours, except that arising from the bandages which were necessary for their confinement.—*Répertoire Gén. D'Anatomie, &c.*

Mal-formation of the Heart.—The subject was an infant that died a few days after birth. The auricles were found in their natural situation, but the ventricles were transposed in such a manner, that the right, which gave origin to the pulmonary artery, corresponded to the left auricle; while the left ventricle, from which arose the aorta and coronary arteries, was placed in relation to the right auricle. In consequence of this disposition, the desoxygenated blood brought to the right auricle, was propelled by the corresponding ventricle into the aorta, and thence distributed throughout the body; while the blood brought from the lungs by the pulmonary veins, was returned into that viscus through the artery of the same name. The ductus arteriosus was very small.—*Journal Gén. de Med.*

Tasteless and Inodorous Copaiba.—The *Annales de la Médéciñe Physiologique* for September, contains some observations upon a preparation of copaiba, possessing the above properties, made by M. Sallé, apothecary and doctor of medicine at Paris. The formula for the preparation of the article is not given; it is described as being entirely exempt from the irritating and unpleasant qualities of the balsam; and as being equally efficacious in its operation. A quantity about the size of a nutmeg is recommended to be taken morning and evening, either half an hour before, or two hours after, having eaten. A cure of the gonorrhœa is generally affected in the course of a few days. The antiphlogistic treatment previous to its exhibition, is to be employed as sedulously as when other remedies are used.

Speculum Oris.—Dr. Lemaistre has given this appellation to an instrument which he has invented to facilitate the examination of the mouth, and operations performed upon this part. It consists of a plate destined to keep the tongue extended upon the inferior floor of the mouth; on each side of the plate are moveable pieces, which project at right angles, the upper extremities of which, correspond with the superior molars. These pieces thrust into the mouth, forcibly separate the jaws, which are readily maintained in that situation. The instrument has already been used with advantage by M. Dupuytren, while extirpating the tonsils on the child.—*Jour. des Progres, &c.*

On the employment of the decoction of Zittmann, compared with other modes of treating inveterate Syphilis and other diseases; by Professor Chelius.—This decoction was long kept secret by its inventor. Theden was the first to make known its composition in 1795; it is as follows. ℞. rad. sarsaparill. ℥xij. coq. c. aq. font. lib. xxiv. per ¼ *hor. p. adde.* Alum. saccharat. ℥iss. mercur. dulc. ℥iss. cinnab. antimon. ℥i. In nodul. ligat. sub. fin. *coct. admisce* fol. senn. ℥iij. rad. liquirit. ℥iss. sem. Anis. vulj. et fœnicul. āā. ℥ss. col. lib. xvj. D. ad lagen. viij. *S. decoct. forte.*

℞. Resid. decoct. fort. rad. sarsaparill. ℥vi. coq. c. aq. font. lib. xxiv. *Sub fin. coct. adde.* pulv. cort. citr. Cinnamon. Cardamom. āā. ℥iij. rad. liquirit. ℥vi. col. lib. xvj. D. ad lag. viij. *S. decoctum tenue.*

Professor Chelius commences the treatment, by the administration of purgative pills, composed of calomel alone, or in combination with jalap and other articles; on the morning of the four succeeding days, the patient is directed to take a bottle of the warm concentrated decoction, and in the afternoon, an equal amount of the decoctum tenue. The cathartic is repeated on the sixth day, and the four following, the decoctions are given as before. The diet is regulated, and the patient enjoined to keep his bed, in order to promote perspiration; some diaphoretic is afterwards directed and should the cure not be completed, the same course is repeated. Professor Chelius has instituted comparative experiments with this preparation, and the rob of Laffecteur, the ptisan of Vigaroux, the decoction of Pollini, the method of inoculation and the plan of Weinhold, which consists in the internal administration of calomel in large doses, repeated after long intervals; the results are, 1st, That the decoction of Zittmann, effects a cure of all the syphilitic diseases, in which the mercurial treatment has been unsuccessfully employed —the exceptions to this observation are exceedingly rare. 2d, That it is equally successful when primarily employed. 3d, That it is used with similar advantage in mercurial cachexies. 4th, Its operation is prompt; the cure not generally requiring a longer period than ten or twenty days. 5th, It in no degree impairs the constitution of the patient, who, on the contrary, frequently enjoys better health than before its exhibition—it may be given with safety to debilitated and cachectic persons. 6th, The decoction of Zittmann admits of repetition in

obstinate cases, better than any other known remedy, the period of its administration may be prolonged, and its operation seconded by other remedial measures, without injury to the patient. 7th, In simplicity it yields only to the plan of Weinhold, over which, moreover, it possesses other advantages. 8th, It is equally adapted, with the treatment by inoculation or friction, to the cure of diseases not syphilitic, such as inveterate impetiginous affections, elephantiasis, &c. Seven interesting cases are related in confirmation of his general propositions.—*Bull. Univ.*

Sulphate of Cinchonine.—M. Marianini, physician at Mortara, has published an interesting memoir on the employment of the pure cinchonine and its sulphate, in the treatment of intermittent fevers. He considers its remedial powers as equal to those of the sulphate of quinine, and as possessing the advantages of less bitterness, and greater solubility in water. According to him, the bitterness of both these substances, is owing to the presence of a quantity of uncombined acid, and may be removed by repeated washings with alcohol. In the first division of his memoir, M. Marianini relates thirty-seven cases of intermittent fever, cured by the sulphate of cinchonine. Five of these were simple quotidians, the sixth assumed a malignant character, and the remainder belonged to the tertian type. Eight cases of malignant intermittent, and seven of simple quartans, successfully treated, terminate his observations on the sulphate.

The second part treats of the results obtained from the uncombined cinchonine, and thirty-seven cases are also cited in proof of its efficacy, 16 simple, and eight malignant tertians, with fifteen cases of quartan fevers. The medicines were generally exhibited in mint water, and the first dose was always the largest. Thirty grains are given at three different periods during the day, and twenty are sometimes given at the first dose.—*Ibid.*

Artificial Anus cured by Pregnancy.—A woman, 32 years of age, had suffered for seven months the inconvenience of an artificial anus in the right groin; the consequence of a crural hernia which had become strangulated. Attempts had been made to effect the closure of the orifice by means of compression, &c. but without success. At the termination of the above mentioned period, she became pregnant, and it was observed that as soon as the uterus had gained the cavity of the abdomen, the discharge of fæces through the artificial anus diminished, while a proportional augmentation took place through the natural route. During the latter period of utero-gestation, pus and serum only were evacuated through the opening; the woman was delivered at the usual period, and two months afterwards, the cure was completed.—*Ibid.*

Atropine and Hyosciamine.—M. Buchner recommends the hyosciamine obtained from the henbane by the action of alcohol, as an officinal preparation, in cases where it is desirable to effect the dilatation of the pupil; the article producing this effect to the almost complete obliteration of the iris, unaccompanied by irritation or other unpleasant consequences. Atropine extracted from the roots of the belladonna, is nearly as active as the preceding preparation; that from the leaves of the plant is much less so. M. Kastner has remarked, that atropine dissolved in a minute quantity of alcohol acts with great energy upon the eye of the cat.—*Ibid.*

Absence of the Vulva.—A married woman was attacked with severe pain in the abdomen, which was supposed to arise from colic. Upon a careful examination, made by Professor Rossi, it was ascertained that there was *no trace of the external organs of generation*, the pubis was as completely free from hair as before the age of puberty. This abnormal disposition of parts, induced M. Rossi to suppose that her illness arose from the retention of the menses, the existence of pregnancy being deemed impossible; and it was decided to perform an incision, in the direction of the vagina, to give exit to the supposed menstrual fluid. On introducing the finger to the bottom of the incision, the *membranes* were found protruding through the os-uteri, the pains increased in force and frequency, and terminated in the expulsion of a child, which lived six hours after birth. A careful examination being made of the rectum, a minute orifice was discovered, scarcely admitting the introduction of a very small sound, and communicating with the artificial opening made by the bistoury.

The same author records the case of a parturient female, in whom occlusion of the va gina was produced, by an extraordinary development of the cutaneous fold which constitutes the fourchette, a very small opening only, existing at its superior part. It was divided by an operation, and the woman delivered of a living child at the full term. The urethra was entirely wanting, the neck of the bladder opening directly into the anterior part of the vagina. From a consideration of the obstacles attending coition in these two instances, Professor Rossi inclines to the opinion which supposes the existence of a seminal aura.—*Archives Gén. de Méd. &c.*

Epispadias.—Hypospadias, or the opening of the urethra on the inferior surface of the penis, at a greater or less distance from its ordinary termination, is a malformation frequently met with; while that in which this canal opens on the upper surface of the organ, is of much more uncommon recurrence. A case of the kind, in the person of a child twenty-six months old, was brought to the Hotel Dieu on the 28th of March, 1827. The prepuce was elongated and contracted at its orifice; there was a slight adhesion between it and the corona glandis on one side. The glans

presented on the median line of its superior surface a groove extending from its extremity posteriorly to the corona; on separating the margins of this groove, a canal was observed, dividing the glans into two equal parts, and terminating behind its corona in the urethra, which had insinuated itself between the corpora cavernosa. Two other canals, equally large and deep were seen, one on each side of the central one, and communicating with it posteriorly. M. Dupuytren declined performing any operation at such a tender age to rectify this malformation.—*Ibid.*

Excrescence in the Interior of the Mouth.—M. Boullois was consulted in the case of a child who was born with an excrescence in the cavity of the mouth, connected by a pedicle about six lines in length, to the alveolar process of the maxilla inferior. This excrescence consisted in a fleshy mass the size of a pea, of an irregularly globular form, slightly flattened on its sides, and apparently fringed on its superior surface; the pedicle was very moveable and scarcely a line in diameter. After some weeks, a white and hard substance was observed on the portion of the tumour, which had a fringed appearance. The pedicle gradually diminished in length, and at the end of three months the excrescence became *sessile* to the alveolus. The white substance was then discovered to be a tooth, situated in the summit of a moveable tumour. The absorption of its envelope, unaided by art, has brought the tooth into the alveolar process, and it now forms the second molar.—*Ibid.*

Horny Excrescence from the Glans Penis.—The patient consulted Dr. Richond Desbrus 20th April, 1825, for what he called a cancer of the penis. The aspect of the organ was revolting; the prepuce divided and tumefied, was, in its anterior part especially, thickened, indurated and almost cartilaginous; near the frenum it had degenerated into a caseous matter, which was surmounted by vegetations of a whitish colour; on each side was observed an enormous excrescence, bleeding upon the slightest touch. The glans buried and almost lost in this mass of diseased structure, was covered with a hard and black incrustation, which adhered with some tenacity to its surface; beneath the incrustation the glans had assumed a velvet-like appearance, it was of a whitish colour, and considerable portions could be removed by the forceps without occasioning hemorrhage. Around its base there was a copious formation of pus of a fetid odour. An abscess had formed upon the penis, and a large and slightly painful bubo in the right groin.

The disease supervened upon an operation for phymosis, followed by inflammation which ultimately became chronic. The patient was 60 years of age, and stated that he had never had the venereal disease. M. Richond-Desbrus removed the diseased structure with the knife and by means of caustic, and the repeated use of the bistoury, as often as the vegetations rendered it necessary, had produced an almost entire cure, when some domestic duties obliged the patient to return home. M. Desbrus saw him again in the following year, the disease of the prepuce had returned, and a horny excrescence, two inches in length and one in diameter, projected from the glans. This excrescence had the form, colour, and consistence of an ordinary horn, and exhaled the same odour when burnt. Its parietes were nearly two lines in thickness, hard and firm externally, friable and porous within; its cavity was filled with an indurated caseous substance. Amputation was proposed and assented to by the patient, but being subsequently advised to go to Lyons, M. Desbrus saw him no more.

Horny protuberances from the skin and mucous membrane in various parts of the body, have often been observed, but cases like the above are rarely met with; one is related by Caldani, another is recorded by Ebers, and M. Breschet has seen in a very aged person horny lamellæ arising from the glans.—*Ibid.*

Foreign Substances in the Pharynx.—An insane inmate of the Bicêtre had been under medical treatment fifteen days for inflammation of the pharynx; on examination at the end of that time, M. Murat recognized the presence of a foreign body, which proved to be a spoon six inches in length. The large part of this instrument, two inches broad, had penetrated into the œsophagus with its convexity posteriorly; the upper extremity was placed behind the soft palate. M. Murat made several attempts to remove it with the forceps, but was unable to succeed, until he divided the soft palate to the extent of six or eight lines, when it was extracted, though not without considerable difficulty, twenty days after its introduction. Instead of incising the roof of the palate in this case, M. Gendrin supposes that it would have been better to have divided the spoon by the aid of small scissors, or any other suitable instrument.—*Jour. Gén. de Méd.*

Vaccination.—The notion that the vaccine influence wears out in the human constitution, has recently occupied the attention of a committee of the *Académie Royale de Médecine*, who gave in their general report on the efficacy of this practice, at the late annual public meeting, upon which occasion the veteran Portal presided. It is certain that the small-pox has made its appearance in persons in whom vaccination had displayed all its regular phenomena; but, probably, with much less frequency than has been alleged; and not one has reached the knowledge of the Academy which terminated unfavourably.

The promulgation of the idea in question is looked upon by the committee as fraught with the greatest danger, inasmuch as it will disturb the peace of families, confuse the notions of those who attend to the subject, and impair

that confidence which is essential; while, as the period during which the vaccine influence is supposed to be valid, differs exceedingly in the opinions of individuals, the proposals to *re-vaccinate* is judged altogether inadmissible. The concluding remark in their report is characterized by candour and good sense. 'It is evident,' say the authors, 'that when the utmost concessions are made, when all the cases of *small-pox after vaccination* which have been reported, are considered authentic, it would be sufficient to compare these rare occurrences with the innumerable cases of the disease in those who have not been vaccinated; and also with the immense number of those who have undergone the process, and been exposed to contagion with impunity, in order to be convinced that vaccine inoculation is one of the most beautiful and useful discoveries that have ever been made, and that this invaluable antidote still preserves its virtues.—*Lon. Med. Rep.*

Tetanus.—M. Carron (*Compte rendu des Travaux de la Société Médicale de Lyon*) relates five cases of this formidable disorder, in four of which the treatment was successful. The first was one of *opistothonos*, supervening a wound in the thumb, by the bursting of a gun. The application of leeches to the abdomen and the back was here successful. The second arose from placing the foot upon a nail, which ran in, to the depth of an inch and a half, and the wound was neglected. Pain came on next day, extending upwards, and terminating in *trismus*. Bleeding, in the first instance, did no good here; and *opistothonos* made its appearance; but by repeating the leeches to a large extent, with the addition of emollient baths and drinks, the patient recovered. In the third case, a young man exposed himself to cold, after violent exertion, and was affected with *emprostothonos:* similar measures were successful. The fourth instance was that of a person who, when heated, took a draught of cold water, and then laid himself down to sleep on the damp grass. Trismus and opistothonos came on; but by bleeding, &c. he was well in four days. All these persons were sensible of a pain, heat, or weight, about the spine. The fifth case was not so fortunate. It was one in which the hand had been shattered by the bursting of a pistol; while suffering from which, the patient took a long journey, exposed himself to wet, and, in some respects, acted very imprudently. The remedies first administered, when symptoms of tetanus made their appearance, were opium and musk; and when M. Carron was called in, recourse was had to depletory measures, in vain.—*Ibid.*

Delivery by Gastrotomy.—A little, weak woman, at the end of the seventh month of her second pregnancy, fell down a stair, and was immediately afterwards seized with pain in the abdomen, from which moment the movements of the fœtus ceased. In a short time the uneasiness diminished, excepting in one particular place, about an inch from, and on the left side of, the umbilicus. Here an opening formed spontaneously, and out came the right foot of a fœtus. A surgeon who was called in took it away, and the rest of the body was detached piecemeal. Every bone was extracted almost separately; and the cranium was obliged to be broken in pieces before it could be got away. The placenta was in a very putrid state; and a large collection of highly fœtid pus was formed. The subject of this serious affection, however, did well.—*Jour. fur Geburtshülfe, &c.*

Fatal Case of Mala Praxis in Midwifery.—A poor woman residing at Richmond, near London, falling in labour with her fifth child, was visited by the assistant of her accoucheur. Several hours of labour having produced but little advancement towards a natural termination of the process, the principal himself was called in. A third practitioner being summoned, certain violent attempts to extricate the child seem to have been made, with no other effect than that of bringing away the head without the rest of the infant. A fourth surgeon coming to their assistance, recourse was had to the expedient of turning and delivering by the feet: in attempting which, the uterus gave way, and the body of the fœtus slipped among the intestines; profuse hæmorrhage followed, and the *faculty* having taken their departure, the woman died.

Attempts would appear to have been made to hush up the matter; and various reports were propagated concerning the *cause, manner,* and *instrument,* of decapitation. Our authority states that the head *was cut off* by the operator.—(*Lancet.*) An inquest was held; but it would appear not *super visum corporis*—some of the parties only being examined upon oath concerning the nature of the transaction—the bodies not having been submitted to the inspection of a Jury—without which, according to the law of England, no inquest can be held.—*Lond. Med. Repos.*

Bitter Principle from Aloes.—Upon distilling 8 parts of nitric acid from one part of the extract of aloes, and adding water to the remaining fluid, a resinous reddish yellow substance precipitated, which, by washing, became pulverulent—it was discovered by M. Branconnot. Upon evaporating the liquor separated from the precipitate, it gave large yellow rhomboidal crystals, not transparent and but slightly soluble. These crystals, at first mistaken for a particular substance, were soon found to be a combination of oxalic acid with the bitter of aloes. The bitter substance of aloes dissolved in 800 parts of water, at 59° F., but in a smaller quantity of boiling water. The solution has a superb purple colour. Silk boiled in it acquired a very fine purple colour, on which neither soap nor acids effected any change, except nitric acid; this changed the colour to yellow, but it was restored simply by washing in water. All shades may be given to this colour by proper mordants. Wool is dyed black in a pecu-

liarly beautiful manner, by the same process, and light has no influence on the colour. Leather acquires a purple colour; cotton, a rose colour; but the latter will not resist soap. Dr. Liebeg thinks that this is the only substance from which a permanent rose dye for silk may be expected.—*Ann. de Chimie*, xxxv. 72.

Supposed influence of the Moon, by M. Arago.—There is an impression very general with gardeners, that the moon has a particular effect on plants, especially in certain months. The gardeners near Paris gave the name of the *lune rousse* to the moon, which, beginning in April, becomes full either at the end of the month, or more generally in May. According to them the light of the moon, in the months of April and May, injures the shoots of plants, and that, when the sky is clear, the leaves and buds exposed to this light become red or brown, and are killed, though the thermometer in the atmosphere is several degrees above the freezing point: they confirm this observation, by remarking that, when the rays of the moon are stopped in consequence of the existence of clouds in the air, that then the plants are not injured, although the temperature and other circumstances are the same.

M. Arago explains this observation of practical men, by a reference to the facts and principles established by Dr. Wells. He has shown that in a clear night, exposed bodies may frequently have their temperatures reduced below that of the surrounding atmosphere, solely by the effect of radiation, the difference being as much as 6, 7, 10, or more degrees, but that it does not take place when the heavens are obscured. M. Arago then observes, that the temperature is often not more than 4, 5, or 6 degrees above the freezing point during the nights of April and May, and that when the night is clear, consequently when the moon is bright, the temperature of the leaves and buds may often be brought by radiation below the freezing point, whilst the air remains above it, and consequently an effect be produced, which, though not dependent upon, accompanies the brilliant unobscured state of the moon—the absence of these injurious effects, when the moon is obscured, being also as perfectly accounted for by these principles, from the knowledge that the same clouds which obscure the moon will prevent the radiation of heat from the plants. Hence, as M. Arago observes, the observation of the gardener is correct as far as it goes, though the interpretation of the effect which he generally gives is incorrect.—*Ann. du Bureau des Long.*

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A TREATISE ON THE DISEASES OF THE CHEST, AND ON MEDIATE AUSCULTATION.

By R. T. H. Laennec, M.D., Regius Professor of Medicine in the College of France, Clinical Professor to the Faculty of Medicine of Paris, Physician to her Royal Highness the Dutchess of Berri, &c. &c. &c. *Second Edition, greatly enlarged. Translated from the French; with Notes, and a Sketch of the Author's Life.* By John Forbes, M. D., Member of the Royal College of Physicians, and Senior Physician to the Chichester Infirmary. *With Plates.* 8vo. pp. xxviii. 722. Underwoods, London. 1827.

The title alone of the work which we have at present before us, would be of sufficient interest to excite the attention of our readers; but when we find that followed by the name of Laennec, how much that interest must increase! That many of the diseases of the chest are more obscure, more uncontrolable in their course, and fatal in their termination,—yet that their pathological characters and external signs are less understood than those of maladies of any other cavity in the body,—every practitioner who has had to deal with them will readily admit. Until the learned and persevering author of this treatise applied his attention to these affections, we were nearly as much in the dark respecting both their pathology and pathognomonic signs, especially the latter, as our brethren were two centuries ago. Indeed, we had neglected many of those wise instructions given to the world, nearly two thousand years before, by the Father of Physic, relative to the mode of distinguishing thoracic diseases by the use of the organ of hearing. That the medical world should again lose sight of such a valuable test of diagnosis, is almost impossible; yet we cannot help regretting, that practitioners in this country are so tardy in complying with the use of so easy and convenient a method. The common excuse made by medical men here for not employing the stethoscope and other means of auscultation, is that of the non-compliance of patients: but we have never met, in the course of our practice, with any individuals whom we could not persuade, by some means or other, to submit to any reasonable treatment proposed for their relief. An objection is also founded to this mode of examination, upon the plea that it occupies too much of the time of the medical attendant. It is unnecessary to make any further reply to this objection than that the duty of every one into whose hands a patient commits his health and life, requires him to use every means within his knowledge and power to relieve that patient. But we must relinquish these remarks, and apply ourselves to the contents of the valuable work before us.

The volume is divided into two grand parts. The first treats of diseases of the bronchia, lungs, and pleura; and the second embraces affections of the heart and its appendages. But before we call the attention of our readers to either of these subjects in particular, we beg leave to detain them for a short time, while we notice "the physical diagnostics of the diseases of the chest, and of the different methods of exploring that cavity." We shall pass over the mode of "manual examination of the exterior of the chest," as well as "external inspection or *mensuration*, *succussion*, and *abdominal pressure*." The last method was recommended and practised by Bichât; but our author objects to it on the score of its inefficiency as a diagnostic sign of different diseases.

When the chest of a healthy person is slightly struck, it yields, over its whole extent, a clear and distinct sound, owing to the constant presence of air in the lungs; but when any portion of this viscus is diseased in such a degree as to prevent the atmospheric air from entering, if *percussion* be applied to the thorax over that part, the sound produced is very different from that of a part situated over a healthy lung. Dr. Laennec recommends the following method of using percussion:—

"The patient ought, if practicable, to be either seated or standing; if in bed, the mattress, still more the pillows, and also thick curtains, always render the sound less. The chest ought to be covered with a thin dress, or the physician should have a glove on. This precaution, originally recommended by Avenbrugger, is particularly necessary, inasmuch as the contact of the naked hand and skin occasions a sort of clatter, which renders the pectoral sound less perfect and distinct. It is better that the chest should be covered, and the

hand naked, since the glove necessarily diminishes the sensibility of the touch; and because the sensation of elasticity perceived by the operator frequently confirms his judgment in cases where the difference of sound is only doubtful. In every case the perception of the sense of fulness or emptiness conveyed by percussion is much stronger to the operator than the mere bystander. Percussion ought to be made with the four fingers united in one line, the thumb being placed, in opposition to them, at the junction of the second and third phalanges of the index, and used merely in maintaining the fingers in close and strong apposition. We must strike with the *ends*, and not the face or pulpy portion of the fingers, not obliquely, but perpendicularly, and gently and quickly—that is, raising the hand immediately from the skin.

"When we percuss comparatively the two sides of the chest, we must be careful to strike successively on parts that are similar, with a like force, and under an equal angle; for instance, we must not strike one side in a direction parallel with the ribs, and across them on the other. The omission of these precautions frequently leads to errors of consequence. If we keep the fingers united in a bundle or mass, and not in a line, or apply them under an oblique angle, so that their face, and not their ends, come in contact with the chest; or if we use too much force, or permit the fingers to rest after the blow is struck, we elicit less sound. We ought, in general, to apply percussion to the bones, and not the intercostal spaces, and to strike the anterior and lateral parts of the chest in a direction parallel to the ribs. If, however, the intercostal spaces are not very sensible, as frequently happens in fat or phlegmatic persons, it is better to strike across the ribs. Behind, we cannot do otherwise on account of the thickness of the muscles; and here we ought to prefer the angles of the ribs, as being least covered, and therefore affording the best sound. In any point where the muscles covering the ribs are thick, flabby, or relaxed, we should endeavour to procure their tension. With this view, when we apply percussion over the pectorals, we cause the patient to keep the trunk erect, the shoulders thrown back, and the head elevated; and in applying it over the muscles at the side of the spine, or which cover the scapula, we direct the arms to be crossed, the head to be stooped, and the back to be rounded. In percussing the axilla and side, we cause the arm to be raised, and the hand to be placed above the head. If the muscles are very much relaxed, or if there is œdema or a flabby fatness, it is often useful to stretch and compress the integuments with two fingers of the left hand, and to strike in the interval. In the case of children and lean persons, it is found sufficient to percuss with the extremity of one finger. In subjects whose chest is naturally very sonorous, or where we merely wish to verify results already known and easily obtained, we may operate more expeditiously by using the flat of the hand, taking care not to apply the palm. This method, however, is less to be depended on, inasmuch as the percussion extends over too large a space, and is somewhat different under each finger. In these cases I occasionally employ, and with more success, the stethoscope, in percussing rapidly the parts on the back, especially where the muscles are flabby, and find that I can elicit in this manner a greater sound with less force of percussion."

The character of the sound derived from percussion applied to various parts of the thorax is very different. The author divides this cavity into *thirteen* regions, the sound from each of which is differently modified; but through all these we do not intend to follow him. Indeed, our readers could derive no advantage from our labour if we did; for *practice alone* will enable them to distinguish the various modifications of sound imparted by different regions.

Immediate auscultation, or the application of the ear to the walls of the chest, was recommended by Hippocrates, in order to ascertain whether any water or pus was contained in the cavity of the pleura; but those who succeeded him allowed the practice to fall into oblivion. There are many objections to this mode of examination; the greatest is—that we possess a far better method in the use of the stethoscope.

Mediate auscultation, as our readers are aware, consists in the application of one end of a cylindrical tube to the walls of the chest, to the other end of which tube the examiner applies his ear. The instrument commonly used is the stethoscope, which consists of a cylindrical piece of wood, about nine inches long, usually made in a very clumsy manner; but we had the pleasure a short time ago of seeing a very neat and ingenious stethoscope, perfectly *portable*, (which can scarcely be said of the common one,) in the possession of a gentleman who has had no small experience in the use of it. This instrument had an ivory stopper, which might be applied to the chest for the purpose of using percussion after the mode recommended by M. Piorry. According to Dr. Laennec's instructions—

"The general precautions which the practice of auscultation requires are the following:—1. The stethoscope must be applied very exactly and perpendicularly to the surface on which it rests, so as to leave no interval between the skin and any part of the extremity applied: 2. We must be careful not to produce pain by too strong pressure: this precaution is most necessary when the instrument is used without the stopper, and when the person is lean: 3. Although it is not necessary that the chest should be uncovered,—as all the positive stethoscopic signs, and frequently also the negative ones, may be perceived through clothes of considerable thickness, provided they are applied closely to the body,—still it is better that the clothing should only be light, for example a flannel waistcoat and shirt. Silks, and also woollen stuffs, are often inad-

missible, on account of the noise occasioned by their friction against the instrument. The examiner ought to be careful, above all things, not to place himself in an uncomfortable posture, nor yet to stoop too much, nor turn his head backwards by a forced extension of the neck. These positions determine the blood to the head, and thus obscure the sense of hearing: they may sometimes be properly avoided by kneeling on one knee. In examining the fore parts of the chest, we ought to place the patient on his back in a recumbent position, or in a chair, and gently reclining backwards. When we examine the back, we cause the patient to lean forwards, and to keep his arms forcibly crossed in front; and when we examine the side, we cause him to lean gently to the opposite one, and to place the fore arm on the head."

The lungs, trachea, and larger bronchial tubes, communicate, respectively, different modifications of sound. When the instrument is applied to the breast of a healthy person, a slight murmur is heard during respiration, similar to that emitted by a person in placid sleep. This sound is perceptible when the cylinder is applied to almost every part of the thorax, but especially where the lungs approach most to the parietes of the cavity. The intervention of the clothing does not alter the sound, provided that clothing be of such a nature as not to crackle, or emit a sound itself from the pressure of the instrument, which will be the case if it consist of "silk, or of fine, hard stuff." Care must also be taken that the cylinder be kept steady, otherwise the sound produced by the friction may be mistaken for, or confounded with, that of respiration. When this "respiratory murmur" can be distinctly perceived in every part of the chest, we may be sure that no obstruction exists in any part of the air passages, or any fluid in the cavities of the pleuræ; but if this peculiar sound cannot be perceived in any particular spot, it may be concluded that the corresponding portion of the lung is obstructed, from one cause or another.

The author remarks, that in "*bronchial respiration,*" when the stethoscope is applied to the larynx, or cervical part of the trachea, the respiratory sound does not impart that sensation of crepitation to the ear, which it does when the instrument rests on any part of the chest. The sound is "*drier*" (rather an odd way of expressing it,) and it can be easily perceived that it passes through a large empty space.

He makes use of the term "*cavernous respiration*" to distinguish the sound produced when an excavation exists in the substance of the lungs, whether occasioned by the softening of a tubercle, by gangrene, or the bursting of an abscess. The sound in this case is somewhat similar to that emitted by the trachea. The "*blowing or puffing,*" also, does not differ much from the above, only that in this variety the air appears, during inspiration, as if drawn from the auscultator's ear; whereas, during expiration, it seems as if blown into it.

The "auscultation of the *voice*" in a healthy person does not materially differ from the sensation of slight vibration felt on applying the hand to the chest; but when the lungs contain tuberculous excavations, the sound of the voice communicated by the cylinder placed over that excavation is of quite a different character. Under this circumstance, the voice appears to come directly from the chest; and it imparts the same sensation to the ear as when the instrument is applied to the larynx. Dr. L. distinguishes this modification of sound by the term *pectoriloquism.*

"This phenomenon may be produced under very different circumstances: 1, by the softening of tubercles (by far the most common cause;) 2, by the decomposition of a gangrenous eschar; 3, by an abscess, the consequence of a peripneumony; 4, by the evacuation of a cyst into the bronchia; and probably also by a fistulous communication between the bronchia and an abscess of the mediastinum."

With respect to the other varieties of auscultation of the voice, namely, *bronchophonism, laryngophonism,* and *ægophonism,* as described by the author, it is almost impossible to communicate proper ideas of them by words. It requires, indeed, very long experience to distinguish them, and nothing but this will enable one to do so. The auscultation of cough, also, and of the different kinds of *rattle,* of which the author mentions five varieties, can only be known from the result of practice. Some idea may be acquired, however, of the various kinds of rattle, from the terms which Dr. L. applies to them, viz. "1, the moist crepitous rattle; 2, the mucous or guggling rattle; 3, the dry sonorous rattle; 4, the dry sibilous rattle; 5, the dry crepitous rattle, with large bubbles."

We now come to the last subject noticed in the "Preliminary Essay:" this relates to that modification of sound which the author terms "*metallic tinkling,*" and "which bears a striking resemblance to that emitted by a cup of metal, glass, or porcelain, when gently struck with a pin, or into which a grain of sand is dropped."

"The metallic tinckling always originates in a morbid excavation within the chest, containing partly air and partly liquid. It exists only, therefore, in two cases, viz. where a serous or purulent effusion coexists with pneumothorax; or when a large tuberculous excavation of the lung is only partly filled with very liquid pus. It is further necessary for the manifestation of this phenomenon, in cases of empyema or hydrothorax complicated with pneumothorax, that the cavity of the pleura should communicate directly with a bronchial tube by means of a fistula, such as has place when a tuberculous vomica, abscess, or eschar of the lungs, opens into the chest. This sign may, on this account, be considered as pathognomonic of this triple lesion. From it we may also further have an idea of the size of the fistulous perforation, as well as of the relative proportion of air and liquid in the chest; since

the phenomenon is more distinct, according as the fistula is larger; while the extent of the vibrations of the sound corresponds with the extent of the spaces occupied by the air."

We must next attempt to grapple with the main body of this mighty volume. We shall endeavour to go through it carefully, and present our readers with every thing we can discover in it of practical importance, but in as brief and condensed a manner as possible.

In the first *book* of the first part of the volume, the author treats of diseases of the bronchia. The first chapter of this book relates to "inflammation of the mucous membrane," or catarrh. Of this we have seven varieties described, viz. 1, the acute mucous catarrh; 2, the chronic mucous catarrh; 3, the pituitous; 4, the suffocative; 5, the dry and latent; 6, the convulsive, or hooping-cough: 7, the symptomatic. Pulmonary catarrh is so common an affection as to render it quite unnecessary for us to describe it; and the treatment employed in common cases is so simple, that we shall not notice it here. Dr. L. says, that the principal pathognomonic sign of the disease consists in a total suspension of respiration, occasionally, in the affected part. This is, of course, discovered by the stethoscope. He thinks it is occasioned by temporary obstruction of the bronchial tubes, caused by the mucus secreted from their internal surface. All that is necessary to notice respecting the pathology of these different varieties of catarrh is, that the author has convinced himself that they invariably depend upon a degree of irritation and inflammation of the mucous membrane of the bronchia. The pathognomonic signs will be according to the degree of obstruction of the air passages, and other morbid conditions of the lungs, which can only be distinguished in each from the result of practice. In the second chapter he treats of "dilatation of the bronchia." This exists sometimes in one bronchial branch; whereas, in other cases, several branches are in a dilated state. The mucous membrane is generally very much thickened in the dilated portions—its surface is uneven—it is softer than natural, and of a violet red colour. He observes, that "dilatation of the bronchia is only met with in cases of chronic mucous catarrh."

Bronchial dilatation is always attended by more or less *pectoriloquism*, "together with a *large* mucous rattle, precisely like the cavernous rattle in phthisis;" but when the dilatation is moderate and general over most parts of the lungs, a *diffused bronchophonism* takes the place of pectoriloquism. Dr. L. considers this disease as a consequence of complicated catarrhal affections; and the indication of treatment consists in diminishing the mucous secretion. The morbid appearances observable in the lungs of those who die of dilatation of the bronchia, are those which commonly follow long chronic inflammation.

We now come to consider a disease generally very fatal in its consequences, namely, the *croup*, or, as our author calls it, "*the plastic inflammation of the air passages.*" The anatomical characters of this disease are, inflammation of the air tubes, "with exudation of plastic pus (coagulable lymph,) which, becoming concrete at the very moment of its formation, lines the inner surface of this membrane to a greater or less extent." When this adventitious membrane is removed, "the subjacent tunic is of a deep vivid red colour, occasionally livid, and somewhat thickened."

The symptoms of this deadly disease are well known to practitioners generally, so that we shall not take up the time of our readers to describe them. The plan of treatment which our author recommends is that usually adopted in this country; but he appears to pursue it with far less *energy* than British practitioners are in the habit of doing.—There is one remedy, however, to which he certainly alludes, but which he appears to have had very little experience in the employment of—that is, mercury. We have had an opportunity of seeing very numerous cases of croup, and we can confidently affirm, that we have never witnessed this remedy to fail in removing the disease when employed *in the early stage of the malady, in sufficiently large doses.* Dr. L. recommends mercurial friction till salivation is produced; but it generally happens, that, in children, this object cannot be attained, nevertheless the mercury does good. It is usually employed in this country in the form of calomel, which is, in our opinion, by far the best preparation of it for inflammatory affections. In croup, it should be given in large doses, and very frequently repeated. These must, of course, be regulated in some degree by the age and strength of the patient; but as a general practice, a child of a year, or two, or three old, should take *four or five grains every hour and a half, or two hours, till the disease is somewhat subdued.* The doses may be then reduced in quantity, and given less frequently. We have here a note by the translator, who appears to place no great confidence in the mercurial plan of treatment; but we are convinced, that, if he were to pursue it with *energy*, he would find reason to change his opinion respecting this remedy. Bleeding, and other accessory remedies, are not to be neglected while the calomel is administered.

"*Bronchial hæmorrhage,*" or hæmoptysis, we shall pass over, by merely remarking, that, by the application of the stethoscope, the sound is found generally natural, with the exception of a little mucous rattle.

The other subjects treated of in this book, are, polypus of the bronchial membrane, ulcers of the bronchia, foreign bodies in the bronchia, and diseases of the bronchial glands. But as the author advances nothing new, either with respect to the diagnosis or to the treatment of these affections, it is unnecessary to take further notice of them; we shall, therefore, pass on to the second book, which embraces the diseases of the *lungs* themselves.

Hypertrophy and atrophy of these organs are by no means of common occurrence; and

as our author cuts these subjects short, we may be allowed to do the same, and call the attention of our readers for a few moments to the third chapter, on emphysema of the lungs.

Dr. L. describes *two* kinds of emphysema of the organ; 1, pulmonary emphysema; 2, interlobular emphysema. The principal anatomical characters of pulmonary emphysema, are an increased size of the vesicles, and a destruction of their uniformity. Some are so small as millet-seed, "while some attain the magnitude of hemp-seed, cherry-stones, or even French beans." At the bottom of some of the enlarged cells may now and then be found small openings, which communicate with the adjoining vesicles. Sometimes, when the cells are very much distended, their coats give way, and the air is diffused among the cellular membranes, exactly the same as in emphysema of the subcutaneous adipose membrane. In order to have a correct idea of this disease, the author recommends the affected portions of lungs to be inflated, and immediately dried; and if these be compared with sound portions, the difference is perfectly evident. The following case of partial emphysema will better illustrate the nature of the affection:—

"A woman, aged fifty, came into the hospital Necker, in December 1818, affected with great dyspnœa, cough, strong action of the heart, anasarca of the extremities, &c., which were said to have existed three weeks. She died the same night. On examination, the lungs were found free from adhesions, voluminous, and lighter than usual. A large portion of the right lung, and almost all the lower lobe of the left, were smooth and shining, yet somewhat irregular on the surface, and collapsed much less than the other parts. On the surface of these portions there was a great number of transparent vesicles, of the size of a millet or hemp-seed, and some as large as cherry-stones; the former being level with the general surface, the latter somewhat prominent. Upon inspecting these vesicles closely, they were found to be the air cells in a state of dilatation. The cells around these, and indeed over the whole of the lung that remained uncollapsed, were more distinct than is usual, and gave the parts so affected a resemblance to the vesicular lungs of cold-blooded animals. In two or three points there were bubbles of air, of the size of a small filbert, extravasated beneath the pleura. These were readily distinguished from the dilated cells, by being easily displaced by pressure. On compressing those portions of the lungs where the cells were dilated, the resistance afforded by them was softer, and the sensation communicated was unlike the natural crepitation usually perceived. The air, in escaping from these parts, produced a gentle hissing. On puncturing them they collapsed, and lost the appearance above described. In other respects, the substance of the lungs was sound. The bronchia, particularly the smaller branches in the affected parts, were very perceptibly dilated, of a very deep-red colour, and filled with a very viscid, and nearly colourless mucus."

Dr. L. further remarks, that,

"From these observations it results, that pulmonary emphysema consists essentially in the dilatation of the air cells, and that the *extravasation* of the air on the surface of the lungs, constituting the larger and more prominent vesicles, is a posterior affection, and not necessarily connected with the disease in question. The latter species of lesion is, moreover, of slight consequence compared with the dilatation of the cells, as we can hope for its removal by absorption, as in other similar cases; whilst we cannot well see in what manner either nature or art can remedy the other morbid derangement. At the same time, I do not think we are justified in considering this affection as altogether incurable. In several instances, I have fancied that I discovered the traces of cicatrization of ruptures of the pulmonary tissue, of the kind above described. In the case of subjects affected with asthma, I have several times, during the fits, detected a crepitous rattle, with large bubbles in particular points, which rattle entirely disappeared afterwards; and it is quite intelligible, that if we can diminish the intensity of the cause which keeps up the habitual distention of the cells, we may in the end hope that these will be actually lessened in volume.

The auscultatory or pathognomonic signs of this affection are rather obscure. There is a very clear sound produced by percussion, but scarcely any respiratory sound can be distinguished by means of the stethoscope. The plan of treatment which the author recommends is hardly worth mentioning. It rests entirely on general principles.

The "*interlobular emphysema*" is anatomically characterized by "infiltration of air between the lobules of the lung." The cellular partitions, instead of presenting the scarcely perceptible thinness natural to them, are found in some instances considerably thickened; "and in place of their usual whiteness and opacity, they exhibit on the surface of the lung, and toward its edges principally, trasparent bands, which form a contrast with the opaque pulmonary substance. These appearances are necessarily the consequence of rupture of some of the air vesicles in the first place; yet Dr. L. observes, that he has never been able to discover any rupture of them in examinations after death, and scarcely any dilatation of the cells is apparent. He positively affirms, that the emphysematous affection never extends to the lobules themselves. On the contrary, it seems probable, in the case of very large infiltrations, that some intermediate lobules may have been obliterated.

The chest sounds well on percussion in this disease; but our author considers one sign quite pathognomonic of it, and that is "*the dry crepitous rattle, with large bubbles;*" with the friction of *ascent* and of *descent* corresponding to the inspiratory and expiratory processes. There is generally considerable dyspnœa. The emphysema sometimes extends from the lungs

over a great part of the body, blowing up the cellular tissue under the integuments. When this is the case, it is recommended to let out the air by a few pricks with the lancet; but when the affection is confined to the lungs alone, the air is generally absorbed in time; and the author has never met a case of this kind which proved fatal.

In the next chapter we have "œdema of the lungs." The chief anatomical character of this affection consists in an infiltration of serum into the substance of the lung "in such a degree as evidently to diminish its permeability." Dr. L. believes, that it is rarely a primary or idiopathic disease, as it is generally associated with other dropsical affections. It sometimes supervenes on peripneumony. The following case will fully explain both the pathognomonic symptoms and anatomical characters of the malady:—

"A woman, aged forty, had been always, from her childhood, of delicate health, and habitually subject to great difficulty of breathing and palpitation of the heart. This state was aggravated, in her twenty-seventh year, by the supervention of general dropsy, of which, however, she was cured by diuretics: from this time her health continued still to decline. In the beginning of January, 1817, after having sat up with a sick person for several nights, her respiration became extremely difficult, especially on motion; she lost her sleep and appetite, and she had a slight cough, with mucous expectoration. In this state she came into the Necker Hospital, on the 7th March following, with œdema of the lower limbs, livid lips, extreme oppression, frequent palpitation, and startings during sleep. At this time, the chest on percussion yielded an imperfect sound on the left side before, and the right side behind, and no sound at all in the region of the heart; and in all these points the stethoscope detected no respiratory murmur. The heart yielded a distinct sound, but scarcely any impulse, when explored by the stethoscope. From these premises the diagnosis was given—*partial peripneumonia of both lungs—dilatation of the heart without hypertrophy.*

"She died on the 2d of June.

"*Dissection twenty-four hours after death.*—The brain was natural, but with a small quantity of serum in the ventricles. There was about half a pint of serum in each side of the chest, and some cellular adhesions on the right. The upper part of the right lung was sound, only injected with a colourless serum. The middle and inferior lobes were more compact, and discharged, when cut into, a great quantity of transparent, colourless serum, intermixed with a thicker, yellowish, puriform fluid. These lobes were, nevertheless, crepitous, with the exception of a few spots, of small extent, here and there, which had a density almost equal to that of liver, a yellow and somewhat reddish colour, and a granulated surface on incision. The left lung was in the same state, only without the more solid portions. Both lungs had a yellowish-gray colour, like that of this viscus when infiltrated with pus after an attack of peripneumony, only paler. Indeed, it appeared evident, that, in this case, a peripneumony of the inferior portion of both lungs had ended in suppuration, and that the greater part of the pus had been absorbed, the final restoration of the part failing through the debility of the system. The pericardium contained two ounces of serum. The heart was large, its substance soft and easily torn, and its cavities very voluminous."

Dr. L. applies the term "*pulmonary apoplexy*" to that affection of the lungs which gives rise to severe hæmoptysis. It was a disease very little known, with respect to its anatomical character, before our author's time, although its principal symptom (hæmoptysis) was easily recognized. In very severe cases, the substance of the lungs is found to have undergone great alteration. The organs become indurated in a degree equal to the most complete hepatisation; but the affection does not generally occupy a great extent of substance. The pulmonary tissue around the indurated portion is quite crepitous and healthy; but the diseased spot is of a dark red-colour, "exactly like that of a clot of venous blood. When cut into, the surface of the incisions is granulated as in a hepatised lung; but in their other characters, these two kinds of pulmonic induration are entirely different." These morbid appearances are caused by an extravasation of blood into the parenchyma, or air cells of the organ; and the author states, that the lesion "takes place most commonly in the central parts of the lower lobe of the lungs, or towards the middle or posterior part. It is, consequently, on the back and inferior part of the chest that we ought to search for it with the stethoscope."

As our readers are perfectly acquainted with the general symptoms of this malady, it is unnecessary to enumerate them here; but our author remarks, that none of these are sufficiently pathognomonic of it, inasmuch as they will not enable us to distinguish it from *bronchial* hemorrhage. The engorgement in *pulmonary* hæmoptysis is not easily recognized by percussion; but it may be readily discovered by the stethoscope, from the two following principle signs, viz.—"a want of the sound of respiration over a small circumscribed space, and a crepitous rattle round this space." When, however, the lesion is of small extent, it is very difficult to distinguish pulmonary from bronchial hemorrhage in many cases.

We cannot pass over a paragraph here without laying it before our readers, as it contains an ingenious idea, although, we believe, an erroneous one; inasmuch as the change in the condition of the vascular system after profuse hemorrhage may be accounted for upon more physiological principles.

"It appears to me impossible to witness the immense losses of blood which sometimes have place in hæmoptysis or menorrhagia; or the congestions which occur suddenly, and at the same instant, in all the internal and external organs, in epilepsy and certain cases of hyste-

ria,—without admitting that the blood in such cases experiences a sudden dilatation. We know that on mountains sufficiently elevated to occasion a considerable diminution of the atmospheric pressure, most persons spit blood; and that in severe hemorrhages, the blood is more liquid and less coagulable than natural."

Our author founds his plan of treatment upon general principles. It is perfectly similar to that generally adopted in this country for hæmoptysis.

We now arrive at a very important subject, namely, *peripneumony*. The author limits the application of this term, which he uses synonymously with *pneumonia*, to cases of inflammation of the pulmonary substance alone; and he treats of it under the following heads: "1, acute peripneumony, and its terminations by resolution and suppuration; 2, partial peripneumony, and pulmonary abscess; 3, gangrene of the lungs; 4, chronic peripneumony; and, 5, latent and symptomatic peripneumony."

The anatomical characters of acute peripneumony are, in the *first* degree, *obstructive*. The lung in this degree is externally of a livid hue, heavier, and more solid than natural. It is, however, crepitous; but when pressed with the finger, it retains the mark of the impression like an œdematous limb. In the *second* degree, we have the organ in a state of *hepatisation*. Here it has altogether lost its crepitous feel; it becomes heavier, and its substance very much resembles that of the liver. The disease in the *third* degree amounts to a *purulent infiltration*. The lung in this degree is quite as hard as in the *second;* "but it is of a yellowish-pale, or straw colour. At first, the pus, as it begins to form, appears in small detached yellow points. These points gradually combine, and the whole lung finally assumes a uniform straw, lemon, yellow colour; and when incised, exudes a yellow, opaque, viscid matter, evidently purulent, but much less offensive to the smell than the pus of an external wound."

Dr. L. considers the above species of suppuration of the lungs to be the only one of common occurrence; and that *vomicæ* are "the result of the softening of a large mass of tuberculous matter;" for among several hundred dissections, he has not met with more than five or six cases of a real abscess in an inflamed lung. "These were not of large extent, nor numerous in the same lung."

The pathognomonic sign of the first stage of pneumonia is the crepitous rattle, which is perceptible from the first onset of the inflammation. "The extent over which the stethoscope detects the rattle indicates the extent of the inflammation," which is sometimes not greater than the diameter of the cylinder. The rattle becomes "moister" as the organ approaches a state of hepatisation, till at last it ceases to be heard. When the lung has assumed the hepatised state, the rattle is no longer perceptible, and the respiratory sound is also at an end. At this stage, there is a dull sound produced by percussion over the affected part. When suppuration has taken place, more or less mucous rattle may be perceived in the bronchia, "occasioned either by the introduction of pus into them, or by a more copious secretion which then takes place." The signs of an abscess in the lung, when the pus is not absorbed or expectorated as it is formed, consists of a strong mucous or cavernous rattle. "If the abscess be near the surface, the respiration and cough yield (what the author terms) the *puffing respiration;* and, according to circumstances, the *veiled puff*." If resolution takes place before hepatisation has come on, the crepitous rattle gradually ceases, and the sound becomes daily more natural.

Dr. L. considers gangrene of the lungs a rare disease. He divides it into *uncircumscribed*, and *the circumscribed or idiopathic gangrene*. The physical signs of gangrene are the same as those of abscess of the organ, only that the crepitous rattle is not so common in the former as in the latter. The author here relates three cases of gangrene of the lungs, discovered on examination after death; but as the appearances are such as might be expected from the texture of these organs in a gangrenous state, it is unnecessary to extract any of these cases, especially as the stethoscope was not applied to the chest before death, so as to enable the medical attendant to distinguish the pathognomonic symptoms of the malady. Neither is it requisite to follow the author through the plan of treatment laid down for peripnuemony, as it consists of only a modification of that pursued by British practitioners. The only thing worthy of notice in it consists in the use of large doses of tartar emetic, which he discusses at very great length; but as he unfortunately died before his experience was sufficiently extensive to enable him to form a satisfactory opinion respecting the influence of this remedy over inflammatory affections; and as the medical men of this country have received the hint respecting this comparatively new mode of subduing inflammation, we shall now pass on to the *seventh* chapter of this book, wherein Dr. L. treats of "*tubercles in the lungs, or phthisis pulmonalis*."

M. L. remarks, that "the progress of pathological anatomy has successfully demonstrated, that phthisis pulmonalis is owing to the development in the lungs of a particular species of *accidental production*, to which modern anatomists have restricted the name of *tubercle*." He considers this to be the only kind of phthisis that ought to be admitted, "unless it were the *phthisis nervosa*, and the chronic catarrh stimulating tuberculous phthisis."

The author considers that the matter of tubercles may be developed in the lungs under two principal forms, namely, first, under the form of insulated bodies; and, secondly, under that of interstitial injection or infiltration. Each of these presents several varieties. In the insulated, we meet with the *miliary*, the *crude*, the granular, and the encysted tumour.

The interstitial infiltration presents itself in the irregular, the gray, and the yellow characters. "Whatever be the form under which the tuberculous matter is developed, it presents, at first, the appearance of a gray, semi-transparent substance, which gradually becomes yellow, opaque, and very dense. Afterwards it softens, and gradually acquires a fluidity nearly equal to that of pus; it being then expelled through the bronchia, cavities are left, vulgarly known by the name of *ulcers of the lungs*," but which Dr. L. designates *tuberculous excavations*.

We have a very minute description of the anatomical characters of every modification of this "*accidental production*"—too minute, indeed, to be of any practical benefit to any one but the pure anatomist. The tubercles will, in fact, assume almost all manner of form: and their size, also, varies considerably, both in the lungs of different individuals, and in the same lung. It is sufficient here, therefore, merely to enumerate the principal characters of these depositions, without entering into the *minutiæ* of their various modifications. The author remarks, that the "*miliary tubercles*" constitute the most common form under which tuberculous matter appears in the lungs. The tubercles here resemble small grains: "they are of a gray colour and semi-transparent, and sometimes even transparent." The "*granular tubercles, or miliary granulations*," are of rare occurrence. They are nearly of the size of millet-seed, of an exactly round or ovoid form, and of a uniform size. They are colourless and transparent, and they are generally disseminated in countless numbers over the whole, or the greater part of the lungs, without coalescing into groups. The "*gray tuberculous infiltration*" frequently forms round tuberculous excavations: at other times it is deposited in masses of large size, which are "dense, humid, quite impermeable to air, and of a more or less deep-red colour." A "*jelly-like tuberculous infiltration*" is very frequently deposited in the spaces between the miliary tubercles. When the disease has remained a long time stationary, after an excavation has taken place in the lungs, a sort of adventitious membrane is formed round the cavity, adhering to the pulmonary tissue underneath. In different points under this membrane, patches of a grayish white colour, of a texture similar to that of cartilage, are developed. These coalesce as they grow, so as ultimately to form a complete lining to the ulcerous excavation. To this sort of deposit the author applies the term "*incysted tubercle*"—a term used before by Bayle.

The above are the most prominent characters displayed by tuberculous affections in the lungs; but the author describes numerous varieties of each kind, between some of which the shade of difference is scarcely perceptible. The form, size, and other modifications of character which they assume at different times and in different individuals, will, of course, be governed by various causes, both external and internal.

We have next an "examination of the question, whether or not tubercles are the consequence of inflammation." After discussing very minutely the organic consequences of peripneumony (acute and chronic,) catarrh, and pleurisy, the author arrives at the following conclusion, which, we believe, is the conclusion at which every practical pathologist must arrive:—

"From all that has gone before, we are authorized to conclude, that tubercles are not the product of inflammation of any one of the constituent textures of the lungs. On the contrary, a multitude of facts prove that the development of tubercles is the result of a general condition of the body; that it takes place without previous inflammation; and that, when inflammation coincides with the tuberculous affection, it is most frequently posterior to it in its origin. To convince ourselves of the accuracy of this last proposition, we need only examine the progress of tubercles in scrofulous glands. We very frequently find these to swell, and remain for a very long time in this state, and without any redness, either of the adjoining skin, or even of the substance of the gland itself. It is frequently even several years before any marks of inflammation show themselves; but when this occurs, it seems to accelerate the softening of the tuberculous matter. Sometimes, however, not only the softening of this matter, but even the perforation of the skin, and the discharge of the pus, take place without any distinct mark of inflammation. When this occurs, it has its site evidently in the parts contiguous to the gland, and not in the gland itself. Another proof of the same fact, and one equally strong, is supplied by the existence of those secondary eruptions of tubercles, particularly such as affect the many organs at once, and which originate without any obvious sign of inflammation. In instances of this kind, it is impossible not to see a constitutional or general affection. What has just been said of inflammation, applies equally, as Bayle has well observed, to other general and local causes, to which some have attributed phthisis: such as syphilis, croup, scurvy, eruptions, &c. These may hasten the development of tubercles already existing; they may even sometimes, perhaps, determine the development of them in subjects predisposed to them: but in such cases, they are merely occasional causes; the real cause, like that of all diseases, being probably beyond our reach."

The next question is a very important one, namely, "*whether or not phthisis is curable?*" The opinion of D. L. is, we may say, perfectly original with regard to this question; but it rests upon the firmest basis, inasmuch as it is the result of the most extensive experience. Our readers must keep in mind, that the author here treats of *tubercular* phthisis, which he considers a disease perfectly distinct from that brought on the lungs in consequence of inflammation, or of pulmonary apoplexy. His views are, that pulmonary tubercles are quite incurable during the first stages of their pro-

gress towards maturity; but that when they become soft and broken down into a thin, caseous, or puriform sort of substance, they separate from their attachments to the surrounding parts, and that they are cast up during coughing in the way of expectoration. When this process has taken place, a cavity is left in the substance of the lung, which generally receives the name of ulcerated lung; but in some instances a membranous lining forms over the surface of this cavity, which gradually assumes a semi-cartilaginous consistence, and which constitutes a firm and solid wall through which the bronchial extremities open into the cell. Cavities formed in this way remain empty; and when the stethoscope is applied to the chest immediately over them, a very distinct pectoriloquism may be readily perceived. The lung is occasionally healthy and crepitous all round the lining membrane of the cell; but generally, more clusters of tubercles exist in the viscus, which run through a similar course to that of the first, and end by forming another cavern. The author relates the history of several cases, where persons lived and enjoyed perfect health for years with cells of this description in the lungs. The formation of this cartilaginous membrane constitutes the effort of nature to cure the malady; and in some instances, where only a few clusters of tubercles exist, the effort is attended with complete success. The excavation now and then degenerates to a kind of fistulous opening, which also is compatible with a curative process; for when the lung is healthy around the fistula, no inconvenience is suffered by the patient.

We have condensed, as much as we could, these interesting and important views of our author respecting the nature and anatomical characters of phthisis, and we believe we have said enough to draw the attention of our readers to these views; but we cannot afford space for any of the cases which are related in illustration of them.

With respect to the physical signs of tubercles, these are in a great measure according to the progress which the tuberculous affection has made. When the tubercles have advanced so far as to cause an obstruction to the passage of the air, the respiratory sound is lost, and percussion produces a dull, heavy sound over the part; when the tubercle has undergone the softening process, the mucous rattle is apparent in different modifications; but when the tuberculous matter has been completely discharged, the most evident pathognomonic sign is pectoriloquism.

We may now conclude the subject of phthisis without following the author through the sections wherein he speaks of the *occasional causes, symptoms and progress, and treatment* of the disease; for these subjects, although ably treated, embrace nothing with which our readers are not already acquainted. We fear that nature is the only physician by means of whose prescriptions some individuals escape the usually fatal termination of this insinuating and deceptive malady. Art may, however, contribute a little towards retarding its progress; but as we have nothing new to tell our readers upon this point, it will be our wisest plan to remain silent.

The chapters eighth, ninth, tenth, eleventh, twelfth, and thirteenth, treat respectively of "*cysts in the lungs;*" "*hydatids in the lungs;*" "*concretions in the lungs;*" "*melanosis of the lungs;*" "*medullary cancer of the lungs;*" and "*diseases of the pulmonary vessels.*" As none of these are affections of common occurrence, and as they are mostly beyond the reach of art when they do occur, we shall pass silently over them, and offer a few remarks on the subject contained in the fourteenth and last chapter of this book. This embraces the "*nervous* affections of the lungs, which the author divides into, 1. *neuralgia of the lungs;* 2. *nervous dyspnœa;* 3. *asthma, with puerile respiration;* 4. *spasmodic asthma.*

Neuralgia, or nervous pain in the lungs, is not a common affection; but our author observes, that he has seen instances of this disease where the neurilema was red and inflamed. In other instances, however, no morbid appearances were found in the nerves on dissection. For this affection, he recommends friction with corrosive sublimate, made with from four to nine grains of the mercury to half a drachm of lard.

The author's remarks on *nervous dyspnœa,* and on *asthma with puerile respiration,* are very short; and we find nothing in them likely to be interesting to our readers,—we shall, therefore, proceed to the fourth section, wherein he speaks of *spasmodic asthma*—an affection, although not remarkably fatal in its tendency, yet a very distressing one in its nature.

Dr. L.'s views of the anatomical and physiological characters of asthma, are very extensive; and they appear to us to account for the phenomena of the disease, as well as, if not better than, any we have found advanced. He considers that various morbid conditions of the lungs may dispose these organs to asthmatic paroxysms. Among these conditions are those brought on by the different species of catarrh; hydrothorax, ossification, and various other maladies, will also predispose them to asthmatic affections. But he attributes the paroxysms to spasm of the minute bronchial tubes and air cells. He lays it down as a fact, founded upon anatomical demonstration, that the bronchial ramifications at the diameter of a line are endued with a complete set of circular fibres; analogy, therefore, will lead to the inference, that these fibres continue to the very extremities of the tubes. From the fact which he further assumes, that all muscular fibres are liable to spasmodic contraction, he arrives at the conclusion, that the paroxysms are brought on in consequence of a spasm of these fibres surrounding the extreme tubes and air cells.

But he does not think it necessary that an organic disease of the lungs should exist in every instance, to account for fits of asthma; for in some cases, a spasmodic affection of the fibres, and consequently of the bronchial ramifications, takes place from purely nervous

causes, as it does in muscular fibres in other parts. More frequently, however, some organic change in the condition of the structure acts as a predisposing cause to the asthmatic paroxysms.

We will not detain the reader a moment to inquire into the propriety of the plan of treatment proposed by the author, as it is quite unsatisfactory, and far inferior to that recommended by many of our able countrymen who have written on this disease.

We now enter upon the *third* book, which is also the last of the first part of the volume. In this department of the work, the author treats of "diseases of the pleura." The first chapter treats of pleurisy.

He considers the pathology and treatment of this disease under the following heads. "1. simple acute pleurisy; 2. acute hemorrhagic pleurisy; 3. chronic pleurisy; 4. contraction of the chest, consequent to pleurisy; 5. circumscribed or partial pleurisy; 6. latent pleurisy; 7. pleuro-pneumonia; 8. empyema."

The pleura may become highly inflamed, and to a great extent, while the pulmonary tissue is not materially affected by the disease. When this occurs, it constitutes the affection which our author calls simple acute pleurisy. The inflammation gives rise in some instances to the formation of a false membrane, constituted of coagulable lymph, which glues the parietes of the chest to the pleura pulmonalis. This false membrane is at first of a yellowish-white colour, opaque, or slightly semi-transparent. When only the pleura pulmonalis, or the pleura costalis, is inflamed, this membrane embraces the whole inflamed portion without uniting it to the opposite surface. The membranous exudation often varies in thickness in different parts; and its surface now and then presents a sort of granular appearance. Inflammation of the pleura, at other times, gives rise to an effusion of *serous*, or of *sero-purulent* fluid into the cavity of the chest. The latter consists of a fluid, something resembling a mixture of pus and serum, in which large flakes of coagulable lymph may be seen floating.

In the *acute hemorrhagic pleurisy*, the effused serum is more or less tinged with blood, although generally, the quantity of blood is small. The flakes of coagulated lymph in this effusion, are neither large nor numerous; and the false membranes, if formed, are not commonly so extensive as in the simple acute pleurisy.

Of gangrene of the pleura it is hardly worth speaking, as it is a very rare disease: we shall therefore pass on to the "physical signs and symptoms of pleurisy."

As soon as effusion has taken place in the chest, the natural sound on percussion fails over the "whole space occupied by the fluid." But this is also the case in peripneumony. The patient therefore should be placed in different positions; nevertheless, as the chest is always full, and as, consequently, the fluid cannot move readily from place to place, the signs derived from percussion, in the author's opinion, are not much to be relied on. Mediate auscultation furnishes us with surer means of discrimination in this disease. It not only enables us to ascertain with precision the existence of fluid; but we may also judge of the quantity of it. "The signs by which the cylinder effects this, are, 1st, the total absence or great diminution of the respiratory sound; and, 2d, the appearance, disappearance, and return of ægophonism."

The total disappearance of the respiratory sound after the disease has lasted a few hours, is a sufficient diagnostic of effusion. In peripneumony the sound disappears much more gradually, and it is perceived unequally in different parts of the chest. The author here enters very minutely into the different modifications of the sound in the different stages of the malady; but ideas of the nice distinctions perceivable between the different varieties of sound, cannot possibly be communicated by words; and every one ought, therefore, to make himself *practically* acquainted with them.

Chronic pleurisy does not essentially differ, either in its anatomical characters or physical signs, from acute pleurisy, except in degree. It is attended with sero-purulent or with purulent effusions into the thoracic cavities, with adhesions of their walls by means of false membranes, &c., the same as the disease is found to be in its acute from. The inflammation may proceed on so as to give rise to contractions of the chest, of which affection the author relates four cases; but as these are rather long in their narration, we cannot spare room for the insertion of any of them here.

It is scarcely necessary to notice the "circumscribed or partial pleurisy," as it differs in *extent* merely from the acute or chronic. What he terms "latent pleurisy" is not a variety of pleuritis characterized by any sensible and distinct symptoms. The plan of treatment recommended for pleurisy appears judicious; but as it differs in no material respect from that employed by the practitioners of this country, it is unnecessary to waste time and occupy room (which we find already too confined) to detail it.

Pleuro-pneumonia may consist, 1st, of "pneumonia complicated with slight pleurisy; 2d, pleurisy complicated with slight pneumonia; 3d, pleuro-pneumonia, properly so called," or an inflammation of the whole, or greater part of the pleura, complicated with a severe peripneumony. The physical signs here are compounded of those of the two affections in their separate form. The treatment "must be regulated according to the predominance of either affection."

The anatomical characters of hydrothorax, the subject of the second chapter of this book, consists simply of fluid in one or both of the cavities of the pleura. The physical signs of this malady are the same as those noticed under the head of acute pleurisy with serous effusion. Other symptoms must, of course, be taken into consideration, as constituting the diagnostic of the disease. The same

may be said "of blood effused into the cavity of the pleura." This affection seldom exists, except as a consequence of some external violence, which must be taken into account with the physical signs of fluid in the thoracic cavities.

We now come to the subject of *pneumothorax*, or a collection of *air* in the cavity of the chest. The author shall speak for himself here in the narration of the following case, in which "the effusion of air was detected at its very formation, and its progressive increase followed from day to day:"—

"M. C——, a physician of the Faculty of Paris, aged thirty-six, was attacked in May 1822, with fever, diarrhœa, and colic—complaints to which he had been subject. He had twice applied leeches to the abdomen before I saw him on the 27th. I ordered them to be repeated, with the effect of relieving his pains, but not the fever. Finding that this fever was of a remitting nature, I prescribed bark in large doses, combined with tartar emetic, which cut short the periodical accessions, and left a very slight degree of fever. On the eighth day of this false convalescence, upon paying a visit to the patient (who considered himself as almost cured), I thought I observed the respiration to be quicker than usual. In consequence, I applied the stethoscope, and discovered all the signs of an acute pleurisy of the right side, viz. complete absence of respiration and resonance, and ægophonism (slight as to degree, but of a very sharp and *bleating* character) over the whole of the side, and even on the upper parts. I had never met with so extended ægophonism; and I could only account for it by considering the lung as attached to the costal pleura by ancient adhesions, in different points, so as to prevent the viscus from being separated from the walls of the chest to any great distance. This pleurisy was completely latent, as there was neither stitch nor oppression, and no more cough than that slight dry cough which attends almost all continued, and even intermittent fevers. I applied twelve leeches to the side. On the following days the ægophonism became less, and gradually disappeared over the upper half of the chest; the part where it began to be heard becoming every day lower. Percussion now yielded the natural sound over the space left by the ægophonism; but there was no respiratory sound whatever, although this was perceived, in a very slight degree, over the lower two-thirds, where the ægophonism was still strongly marked, and the sound on percussion entirely dead. It was evident from these signs, that pneumothorax had supervened to the pleuritic affusion. I did not attempt to confirm my diagnosis by means of succussion, for fear of alarming the patient. As the side was not at all dilated, and there was no metallic tinkling, I concluded that pneumothorax was not the consequence of a pulmonary fistula, but of simple exhalation into the pleura; and that the sero-purulent fluid was absorbed in proportion as the gas accumulated. This last circumstance was, moreover, quite evident from the fact, that the ægophonism and dead sound were found to retreat daily before the pneumothorax. Fifteen days from the appearance of the pleurisy, and thirty from the attack of fever, ægophonism and the sound of respiration were confined to the middle of the back. The anterior-superior half of the left side yielded on percussion a decidedly clearer sound than the other side; and on the lower parts the sound of respiration was entirely wanting. From this time the patient gradually sunk, with various symptoms, connected as well with the fever as the pneumothorax, and died on the 17th July.

"*Dissection thirty hours after death.*—Upon penetrating the left side of the chest, a large quantity of inodorous gas made its escape with a hissing sound; and upon laying open the chest, the lung was found compressed towards the mediastinum (no doubt by the air that had escaped), leaving a space between it and the costal pleura capable of containing more than a pint of liquid. The lung was attached to the pleura of the ribs by five or six points, two at its anterior border, and the other at its outer and posterior surface, in such manner that it could not be completely compressed against the mediastinum, and was not indeed, in any point, more than two inches distant from the walls of the chest. The lower and back parts of this side contained about ten ounces of a bloody serosity, and a large quantity of false membranes, of a yellow colour, pretty thick, and of a tolerably fine consistence. The remaining part of the pleura pulmonalis was healthy; and the costal pleura on its upper and lateral parts was of a dead white colour, and of a shining appearance, like that of cartilage: here and there on its surface there were some tuberosities, of the size and shape of hemp-seed, and whose texture, as well as that of the pleura itself, seemed intermediate between that of the healthy pleura and fibro-cartilage. This portion of the pleura was at least a quarter of a line thick. Upon dissecting it, some tuberculous masses, yellow and opaque, and of the size of a lentil or hemp-seed, but for the most part flattened, were found on its exterior or adherent surface, so as to give rise to elevations on its inner surface, less regular in appearance than the small tuberosities already described. The lung was compressed so as to be not larger than twice the thickness of the hand. It was of a violet hue, soft, and flabby, but otherwise healthy, and did not contain a single tubercle. The right lung was universally adherent by means of old cellular attachments; and its upper lobe contained many tubercles in every stage of their progress."

Simple pneumothorax is of rare occurrence: the disease in most instances is complicated with effusion of fluid in the thoracic cavities. The author recommends the air to be let out by a trocar; but the organic disease which gave rise to its formation is the chief subject to be attended to.

The only chapter which remains to be now

noticed, and which concludes Part First of the work before us, treats of *accidental productions in the pleura.* This chapter is divided into four sections; in the first of which are considered, 1, *productions with effusion;* 2, *solid productions;* 3, *productions on the outer surface;* and, 4, *diaphragmatic hernia.* It is unnecessary to detain our readers to take any further notice of these subjects, as they have been already described by various other authors. The remarks which Dr. L. offers upon them in the present work are short, and do not lead to any new views of practical importance.

We have now waded through, and examined, as minutely as we could, upwards of *five hundred and thirty* closely printed pages of this volume. There still remains Part Second, consisting of nearly two hunded more pages, which shall be noticed in our next number. We have not been able, for want of room, to give many extracts, as we were anxious to condense the substance of the work and the views of the author, as much as possible, and present them to our readers in as complete and perfect a state as the limits of a review would permit. If we have accomplished our intention, we are fully rewarded for our trouble.

From the London Medical and Phisical Journal.

CASE OF PERICARDITIS, *connected with Acute Rheumatism, successfully treated by* S. D. Broughton, Senior Surgeon to the St. George's and St. James's Dispensary, and Surgeon to His Majesty's second Regiment of Life Guards.

The case of which I am about to give an account, though one now well known and understood, may nevertheless be regarded as a useful addition, perhaps, to the general stock of information upon the subject to which it relates.

It will be observed that the metastasis of acute rheumatism was the obvious exciting cause of an inflammatory affection of the heart, that the alternations of the disease in the different structures which it involved were strongly marked and clearly traceable, and that the mind was affected in a singular manner during its progress.

The case terminated favourably; which, in conjunction with its unequivocal signs, I deem to be not the less interesting to the pathologist on that account.

A recruit of the Life Guards, recently from the country, aged nineteen, tall, but of rather a slender form and pallid complexion, was taken into the regimental hospital on the evening of the 3d of April, 1826. He complained of pains throughout the body, principally referred to the joints. The tongue was white, the pulse full and quick, the skin dry, and the bowels were moderately free.

I prescribed seven grains of James's powder with three of calomel; and placed him on spoon-diet, with barley-water and nitre.

April 4th.—The skin appeared moist, but the action of the pulse was little diminished.

One drachm of the vinum antimonii tart. was given in a saline draught every six hours. —The powder was repeated, and an aperient draught of salts and senna ordered in the morning.

5th.—A slight abatement of the fever seemed to have taken place, and the pains were diminished.—Pergat.

6th.—Some degree of inflammation of the pharynx.

A gargle of nitrate of potass prescribed, and the mixture repeated.—Calomel and antimony as before.

7th.—Some increase of fever, and return of pains in the joints, occurred to-day, and he was put into a hot bath. The antimonial wine excited too much nausea.

The dose was decreased, and the mixture given every four hours, with ten grains of James's powder every six.—The calomel omitted.

Soreness of the pharynx relieved.

Next day, he appeared to be much relieved, with moisture on the skin, and less fever.

9th.—He experienced great pain and tumefaction of the knee and ankle on one side, with extreme tenderness to the touch. Bowels open; tongue furred.

I ordered half a drachm of the colchicum wine to be given with each dose of the mixture, and ten grains of the compound powder of ipecacuanha, with six of James's powder, every six hours; and a fomentation of poppies to be applied to the limb.

10th.—The pain and swelling of the limb was much relieved, and now an urgent cough and fixed pain at the sternum appeared, The tongue was very dry and furred; the pulse hard, rapid, and full. A deep inspiration excited pain and coughing, indicating acute inflammatory action, probably in the pericardium. The respiration did not seem to indicate the lungs as the seat of the disorder.

Twenty-four ounces of blood were directly taken from a large orifice in the arm; the colchicum was omitted, and the antimony increased to double the former dose.—Ten grains of James's powder, with two of calomel, were given in the evening; and thirty leeches applied to the chest,—the bleeding in the morning not having removed the pain, although it had diminished the fever, and the heart being felt acting powerfully against the ribs. The blood taken in the morning was much cupped and buffy. A blister was applied to the back, between the shoulders, at night.

11th.—Some relief from the urgent symptoms of the day previous seemed to be obtained, but the action of the heart and arteries continued high and strong. The tongue was more moist, and less furred. The wrist of the left arm was swollen, red, and tender, and there was pain in the shoulder when moved. He had rather a restless night, but the skin was moist. The application of the leeches was followed by a disposition to syncope. The cough was considerably diminished, and the bowels were open. The pulse the even-

ing before was at 130, but diminished in strength. The urine was very turbid, but clear this morning; and the swelling of the limb went down after the application of poppy fomentations, but remained stiff.

Twenty drops of the tincture of digitalis were added to each dose of the mixture.

12th.—Slept well last night. Some pain in the left arm. Pulse ninety-six; tongue moist and cleaning. Very little cough, and pain of the chest much diminished. Feels weak and low.

The digitalis was increased to twenty-five drops every five hours.

To-day he was allowed a little broth, and the following draught was given to remove a retention of urine from the blister, viz. Misturæ camphor, misturæ salinæ, āā ℥j.; træ. hyoscyami ℥ss.; spirit. ætheris nitrosi ℥jss.; M. st. sum.

13th.—Passage of urine free; bowels open. The cough was nearly gone; pulse reduced to eighty-four. Slept well. Tongue moist and clean; the left arm much better; skin moist.

14th.—This morning the cough had somewhat increased, but the pulse continued at eighty-four. Complained of ardor urinæ, for which twenty drops of the liquor potassæ were given in barley-water and solution of gum arabic occasionally, together with ten grains of the compound powder of ipecacuanha every six hours.

15th.—Pulse eighty-four. The ardor urinæ relieved, and the urine, which was thick yesterday, is now clear. The bowels were open, and he was better in every respect. The digitalis omitted.

16th.—The urine was scanty and turbid; the blister healed. Pergat.

17th—. Urine clear and freer. Much debility. Pergat. The antimonial wine omitted.

19th.—Pain of the chest and cough returned; pulse rose to 120, and rather full; tongue dry.

Twenty-four ounces of blood taken from a large orifice in the arm. Diet reduced to spoon. The mixture, with one drachm of antimonial wine, repeated every four hours. The Dover's powder omitted. A large blister applied to the chest. A moderate draught of salts and senna given.

In the evening, he was very much relieved. The blood appeared much cupped and buffy.

20th.—The pulse was much reduced, and he was better, and continued so, but weak, till the 25th, when a fixed pain in the left side came on, not increased by a deep inspiration. The pulse rose to 116, but without cough.

Twenty-four leeches were applied to the side, and twenty drops of the tincture of digitalis added to each dose of the mixture. One drachm of colchicum wine was given at night.

26th.—In the evening he was much relieved, and slept during the night. The pain was removed, but was disposed to return at intervals. The pulse was quick, but diminished in strength; respired freely, and had no cough; skin moist.

The colchicum was repeated this night, and the mixture continued every six hours.

27th.—Pain returns periodically in the region of the heart; the pulse was bounding and intermittent, and the heart acted forcibly against the ribs, as if struggling in a confined space, with a sensation of fluttering in the chest. When on his back he complained of suffocation, and respired best in an upright position. Slept well last night. The tongue was moist and clean. No stool to-day.

The colchicum omitted. The mixture continued, and thirty drops of the digitalis given at each dose. An opening draught.

28th.—Last evening his pulse became reduced in strength and frequency, and he was low and restless. Pergat.

29th.—Pulse sixty, and did not intermit; urine high coloured and clear; restless. This day he appeared confused in his mind, and talked incoherently. Pergat.

30th.—The incoherency continued, and *he repeated the last word of every question and remark made to him.* The extreme fulness and force of the heart's action somewhat lessened. The mixture repeated, and the blister renewed between the shoulders.

May 1st.—He appeared to have recovered his self-possession, and to have nearly left off repeating the last word addressed to him. Slept better last night, and was more composed. He respired easily: the pulse was less full; the heart beat less forcibly; but the artery pulsated irregularly. Tongue moist and clean, and bowels open.

During the few following days, he appeared to improve, but rambled a little, and sometimes the repetition of the last word was observable, and his spirits appeared low. The pulse was reduced to fifty-six, and the heart's action diminished. The artery at the wrist intermitted in its beats. Latterly his mind seemed less affected. On the 4th, the digitalis and antimonial medicine was omitted, and a draught of infusion of roses, with Epsom salts, given thrice a day; and his diet was rendered more generous, in a small degree.

9th.—The intermission of the pulse continued, but less so, and he seemed to complain only of debility, with less restlessness and mental affection.

19th.—Has sat up every day, and, when upright, the pulse beat steady and at 100, but not strong or full. Night sweats have come on, but he has slept well, without pain or cough. The heart's action continued quick and forcible. Since the 16th, he had taken a grain of digitalis with three of the pil. hydr. twice a day, and yesterday the digitalis was increased to a grain and a half. The following pills were now prescribed—

Digitalis gr. v.; hydr. subm. gr. v.; extracti conii ℥j. M. fiat pil. xv. quarum sumatr; ter in die.

An ointment of one drachm of tartarised antimony, rubbed up with an ounce of the

ung. cetacei was applied every night to the chest, till the pustules produced rendered its omission necessary.

He continued to gather strength, and the pulse became slow, natural, and equable; and on the 24th of June he left the hospital, and returned to his duty, having been under treatment since the 3d of April.

He has since continued perfectly well, and has never relaxed from his duties a single day. On examining him recently, I found the heart seemed to labour against the ribs: but his health was excellent, and his constitution in good condition, his conduct being steady, sober, and quiet.

From the London Medical and Physical Journal.

ANEURISMAL TUMOUR, *situated between the Brain and Sella Turcica.* By Thomas William Chevalier, Consulting Surgeon to the Royal Union Association, and Surgeon to the Westminster General Dispensary.

S. B. ætat. thirty-nine, a woman of masculine form and robust constitution, applied to me on the 8th of October, when I obtained the following history of her case from herself and her mother.—She had suffered from a severe burn at the age of fourteen, and had ever since complained of an unusual sensation, which she described as "a shaking movement in her inside." She had been more or less subject to headach from her infancy, and finally ceased to menstruate seven years since, without experiencing any inconvenience.

She had always been fond of reading, and indulged much in that amusement. Her circumstances obliged her to lead an extremely temperate and laborious life; to which, however, she was cheerfully inclined.

About the month of May last, she first began to be afflicted with a strange sort of headach, very different from that to which she was previously accustomed, and a sensation of burning heat in the stomach, feeling (to use her own expression,) "as if her inside were on fire," and she frequently complained of the excessive heat of her mouth.

These headachs, which were very severe, usually occurred more than once a week, and lasted, if at night, during two or three hours, but, in the day time, usually for half an hour.

They were always preceded by flushing of the countenance, and an increased sensation of heat, particularly in the region of the stomach, without any shivering or perspirations. They invariably commenced at the back of the head, the pain shooting through to the right eye, and generally producing œdema of the palpebræ. They were always relieved by the application of cold to the head, and they would at any time recur if she attempted to sit by the fire, or even to expose herself to the heat of the sun.

Her mother informed me that she often seemed to lose her recollection and consciousness for the space of a minute or two during these attacks, and that her health had appeared to decline from last spring, at which time they commenced.

About six weeks since, she remarked that she felt the same kind of "shaking or beating" in her head, which until now she had experienced only in her stomach. From this time her head was never entirely free from pain, and her sight became slightly impaired, so that she could not see to thread her needle; and about the same period, while walking on one occasion in Oxford street, she found herself falling forward to the ground, and would have dropped had she not saved herself by taking hold of the railings. She presently recovered, and returned home, the distance of a furlong, without assistance.

Three weeks before she died, she fell upon her face in the street, and remained insensible for a few minutes; after which she was conducted home with her usual headach.

On Monday, October 8th, she consented for the first time to receive medical advice, and accompanied her mother to my house, when I obtained the above account. I found that she retained the senses of hearing and smelling unimpaired, as well as her appetite; her sense of taste had been deranged for months past, but this proceeded, as she thought, from the heat of her mouth. Her countenance was now strongly marked with despondency, and she exhibited an air of stupid indifference, which would have induced me to believe her intoxicated or insane; but, upon inquiry, I found her intellect perfectly sound, and her habits of life most abstemious.

Her pulse ninety-six, labouring, but not hard or full; tongue furred; bowels habitually costive; countenance florid, but as if chilled by cold. I prescribed a blue pill every night, and a compound colocynth pill every morning, and ordered her to be cupped on the back of the neck to sixteen ounces.

On the following morning she was much relieved, and enlivened in her general appearance.

On Tuesday night, however, the pain in the head recurred with increased violence, accompanied by sickness, and continued nearly all night.

In the morning I found her cheerful, and rather improved than otherwise in every respect. To take one ounce of Epsom salts tomorrow morning, and to continue the pills.

October 19th.—She went to bed last night tolerably well. At half-past one o'clock, however, she got out of bed, and awakened her mother, who inquired what she was doing? to which question she replied, that she was opening the shutters to admit the light, because the room was so dark; whereas there was a candle burning in the room, and no shutters whatever to the window. Her mother arose in time to prevent her falling to the ground, and replaced her in bed.

From this time she became comatose, and I was sent for in the forenoon. I found her perfectly devoid of intellect, and almost entirely deprived of sensation and voluntary

motion; with a small, rapid, and labouring pulse; the feet cold; the pupil small and fixed; the countenance not in the least distorted; the breathing rather laborious, but not otherwise unnatural. She shrunk from the examination of the pupil, but evinced no other sign of sensation.

To be cupped to twelve ounces immediately, and a large blister applied to the back of the neck. Spirit lotion to the head; and an enema of compound extract of colocynth and gruel as soon as possible.

At noon she appeared a little revived from the cupping, and uttered a word or two upon being disturbed; her pulse had, however, increased in frequency, with scarcely any augmentation of its strength; and she died at one o'clock on the following morning, without having manifested any return of consciousness, or exhibited any other symptoms than those of pure coma.

Dissection.—There were extensive cicatrices upon the arms, neck, and chest. One side of the thorax was considerably depressed by a distortion of many years' standing, but the lungs were free from any unnatural adhesions, and every part of the trunk perfectly healthy.

On opening the head, the vessels of the meninges appeared rather turgid, and an extravasation of recent blood was found beneath the left parietal bone, between the arachnoid membrane and the pia mater, but its quantity did not exceed a table spoonful, and was diffused over a circular space of three inches diameter.

The substance of the brain was unusually firm and healthy. The ventricles contained no more than about one fluid drachm of clear serum.

Upon raising the encephalon from the base of the skull, there was discovered a tumour of the size of a large walnut, attached to the pia mater of the base of the brain, and altogether inseparable without violence, from the sella turcica, so that an attempt was made to remove the adjacent bone, together with the brain, but without success, in consequence of the restraint which the presence of the friends imposed. The soft parts being at length separated, the base of the tumour appeared to have filled the sella turcica, which was left clean by its removal, and its chief bulk had been situated so as to separate the corpora albicantia and the optic nerves more than an inch and a quarter from the posterior clinoid processes.

The tumour itself was nearly spherical, enclosed in a fine transparent membrane, excepting where it was cut away from the bone, and of so firm a texture that I was induced to believe it solid throughout. Upon cutting into it, however, after it had been macerated in alcohol for four or five days, I found it to consist entirely of coagula of blood, deposited in several distinct layers, which, like those of an aneurism, were paler on one side, viz. towards the bone, and softer as they approached the corpora albicantia, where there was a cavity as large as a filbert, containing recent coagulum.

With the utmost pains, I have been unable to detect any direct communication between the tumour and the adjacent arterial trunks: three or four comparatively minute branches of the left anastomosing artery of the circle of Willis are, however, so closely connected with its membranous envelope, that one of these may probably have furnished its contents. The preparation not having been injected, it is impossible to determine this point so accurately as might be desired. I hope, however, that the account here given may not be altogether useless, as the symptoms described were sufficient to create a suspicion in my mind, from the first, of the true nature of the disease, and enabled me to foretel to a medical friend the result of the dissection with tolerable accuracy.

From the London Medical and Physical Journal.

FUNGOUS HÆMATODES IN THE RIGHT EYE, *with an anomalous Tumor at the Base of the Brain.* By MARTIN WARE, Esq.

In April, 1812, Miss M., about forty years of age, consulted my late father on account of a total blindness in the right eye. From a memorandum of the case taken at the time, it appears that she was then suffering from violent pain in the eye, and that the pupil was much dilated.

This lady had for many years been subject to frequent returns of pain in the head, which were not relieved by any mode of treatment that had been adopted.

In June, 1815, she favoured me with a visit, when I found that the measures prescribed by my father, three years before, though attended with temporary relief, had been productive of no permanent benefit. The pupil still continued dilated, and the sight was quite destroyed.

For several successive months, I had many opportunities of seeing her, during which time the returns of pain in the head and eye were frequent and violent; but, with the exception of the dilated pupil before mentioned, there was no apparent alteration in the figure or structure of the eye.

In December, 1816, the eye began to enlarge, and soon afterwards the cornea became opaque; the vessels on the globe of the eye being also considerably distended.

In January following, I first met the late Mr. Chevalier in consultation upon the case, and was favoured with his assistance on different occasions until the decease of our patient. An operation for the removal of the eye was in the first instance recommended, to which she readily consented: we were, however, induced subsequently to alter our opinion with respect to that advice, upon being informed by her friends that they had perceived an increasing imbecility of her mental faculties, which, in addition to the pain of the head under which she had so long suffered, induced us to fear that the disease was

not confined to the eye, and consequently that no permanent benefit would be derived from the proposed operation.

At this time the internal organization of the eye was entirely destroyed, its place being occupied by a tumour which protruded considerably beyond the boundaries of the socket. The pain in the eye, which before had been only occasional, was now constant, and resisted every means of relief employed. In this state our patient continued until the end of May, when she was suddenly attacked with constant nausea, and frequent vomiting; the tongue being entirely covered with a thick brown fur, and the pulse becoming feeble and variable.

Early in June, she suddenly lost the sight of the left eye, which, as well as the sense of hearing, had till then remained perfect. She became gradually weaker, and in a few days sunk into a state of coma, in which she continued several days, and expired on the 11th of August.

Dissection.—On raising the anterior right lobe of the cerebrum, a soft, irregularly shaped, dark-red tumour was seen to proceed from the roof of the orbit, near the crista galli, and to extend backwards over the sella turcica, having in its progress totally disorganized the optic nerves at their decussation. On tracing it, it was found to extend into the substance of the thalami, giving a rotten appearance to the cerebral substance in its vicinity. Inferiorly, it terminated almost immediately before the mammillary processes. At first we had no doubt that this tumour proceeded from the diseased eye, and that we should find the orbit carious: but subsequent examination showed this presumption to be erroneous. The orbit was perfectly sound, and the tumour was attached to, and appeared to have proceeded from, the dura mater only, extending backward as it grew.

The disease within the orbit was confined to the globe of the eye itself, and contained within its coats. The optic nerve, at its entrance into the eye, was sound, but shrunk; and the muscles of the eye and upper eyelid, though pressed close against the periosteum by the enlargement of the eyeball, were separable along their whole course by very easy dissection, after the bone was broken away. A vertical section of the globe itself, from near the outer canthus of the orbit backward, showed the humours to have been entirely removed, and their place supplied by a fungous mass, consisting of many small vascular portions blended together, some of a dark colour, and not unlike the parenchyma of the liver in substance; others were of a whitish hue, resembling brain.

From the London Medical Repository.

A CASE OF OSSIFICATION IN THE MITRAL VALVE OF THE HEART; *with the Dissection, and Remarks.* By F. Bailey, M.B., &c. &c.

George Howard, æt. thirty-five, after a very severe exertion in running, was, on the 25th of April, seized with a violent palpitation of the heart, accompanied by intense headach. He continued, however, working at his trade, which was that of a shoemaker, for the space of three weeks afterwards. The complaint then became so distressing as to compel him to quit his occupation, and he sought medical advice; but obtaining no relief, he was, on the 6th of July, admitted a patient at the Reading Dispensary. On that day I visited him, and noted down the following symptoms—Vehement palpitation of the heart, distinctly heard on the right side of the thorax, but the beat most irregular,—sometimes eight or ten strokes in rapid succession, and then an interval,—at other times only two or three hurried pulsations between the intermissions; the carotids bounding; the pulse at the wrist small, irregular, and difficult to enumerate; respiration very quick and laborious; all the symptoms much aggravated by the slightest bodily exertion, by surprise, or any attempt to lie down in bed; lips livid; eyes glassy; countenance pallid, and anxious; copious discharge of mucus and saliva, amounting to more than a pint daily, and sometimes tinged with blood; urine scanty, and loaded; ankles œdematous; loss of appetite and disturbed sleep; but no fever.

I ordered a blister to the chest, an antispasmodic and diuretic draught, and enjoined perfect quietude. By these means some temporary relief was afforded; but the disorder, in defiance of every remedial measure, made rapid advances; and, on the 13th of September, he became jaundiced, and complained of pain in the hepatic region. He was now too weak to sit erect, his legs being greatly swollen; and the expectoration, though equally copious, containing more blood than formerly. At this time, also, he suffered much from pain in the right arm, which, at intervals, became excruciating.

On the 21st of September I found him in a state of exhaustion, labouring for breath, and with a weak, fluttering pulse, which could not be numbered. The palpitation had now greatly subsided, and the expectoration had ceased. In this state he continued until the following morning, when colliquative sweats made their appearance; and he soon afterwards quietly expired.

Dissection.—By the assistance of Mr. S. Workman, a surgeon of this place, the body was examined on the 24th. It appeared greatly emaciated, and the skin assumed a deep yellow colour. On opening the cavity of the abdomen, the liver was found inordinately enlarged; the lowermost point of the right lobe descending to within an inch of the ilium, and the left lobe extending very far into the left hypochondrium. The increased bulk of this viscus had forced the stomach from its natural situation downwards, and towards the left side. The veins of the stomach were inordinately gorged with blood; the gall-bladder contained a quantity of unhealthy bile, which, however, could not obtain its exit, by reason of an obstruction (a deposition of lymph) in the course of the ductus communis. Three quarts of

very offensive bilious serum were taken from the left sac of the pleura; and the lung of this side was so condensed, that its margin reached only to the fifth rib, and it adhered very strongly both to the mediastinum and pleura costalis. On the lower surface of this lung, and that portion of the pleura costalis from whence the lung had receded, coagulable lymph had been poured out in such abundance as to present a honeycomb appearance, and to constitute, as it were, a cyst or cavity analogous to that circumscribing abscesses, which cavity served as a receptacle for the effused serum. An incision having been made through the substance of the lung, it was found distinctly hepatised. About two ounces of serum were evacuated from the right sac of the pleura; but the lung of this side seemed quite healthy.

The heart, being the chief object of inquiry, was, with its investing membrane and large vessels, removed from the body, and seperately examined. It had evidently attained a much greater size than natural. The external surface of the pericardium appeared highly vascular and loaded with blood, and adhered every where to the surface of the heart—in most parts very firmly; but here and there the adhesions were weak, and in one or two points merely gelatinous. Opposite to the auriculo-ventricular opening of the left side, there was a bony deposit, about the bigness of a shilling. The auricles, instead of being loose and pendulous, were agglutinated to the substance of the heart by lymphatic exudations. The right auricle and ventricle, but particularly the former, appeared greatly enlarged and gorged with blood; but the tricuspid valve, and the pulmonary artery with its semilunar valve, exhibited nothing deserving mention. On laying open the left auricle, a bony mass was discovered at the origin of the mitral valve; and it was ascertained, on further inquiry, that the *one-half of that valve had degenerated into a thick osseous substance.* The other portion of the valve was much thicker than usual, and approached to the nature of cartilage. The aorta and coronary vessels were in a sound state. The substance of the heart assumed a darker colour than usual, and had become *so soft and friable,* especially the walls of the left ventricle, as to be penetrated with the slightest touch of the blunt end of a probe. It is also worthy of remark, that the left ventricle contained a considerable quantity of black coagulum.

Remarks.—From the detail we have now given, it must be sufficiently obvious that the primary cause of my patient's death was an ossification of the mitral valve. This valve, having thus lost its natural elasticity, could no longer prevent regurgitation from the left ventricle. Hence, congestion in the lungs and venous system, to which two occurrences the principal phenomena of the dissection are fairly referable. To the pulmonary congestion must we ascribe, not only the inordinate effusion into the left cavity of the chest, with its concomitant symptoms, but that copious expectoration, also, of blood and mucus, by which nature seemed to be continually endeavouring to effect her relief. The accumulation of blood in the venous system, on the other hand, affords a satisfactory explanation of the œdematous extremities, the livid lips, and, in all probability, of those exudations of lymph by which the pericardium was agglutinated to the surface of the heart. The extraordinary engorgement of the gastric veins was, doubtless, owing to the congestion which took place in the portal circle, and which, aided by the obstruction in the ductus communis, could scarcely fail to produce enlargement of the liver. In the narration of my patient's case, the pulse at the wrist is stated to have been invariably weak: to the touch, also, it gave the sensation of a partially filled vessel. Now, when it is recollected, that only a portion of the blood projected by the left ventricle could have entered the aorta and its ramifications, by reason of the imperfect condition of the mitral valve, the circumstances are readily accounted for. The cause of the dilatation observed in the right side of the heart, is too obvious to require any comment; but it is surprising *that the exterior of this important organ, together with the right sac of the pleura, should have suffered such extensive derangements in regard to structure, and have exhibited such striking proofs of previous inflammation with so little general disturbance.* The cardiac region was, indeed, often referred to as the seat of pain; but through the whole course of my patient's disorder there occurred no evidence of feverish development. The pulpy state to which the substance of the heart, especially of the left side of it, was reduced, no less than the dark-purple colour which it assumed, are circumstances well worthy of remark. The former I am disposed to attribute to the long-continued and violent action of the organ, by which, as in the case of hunted animals, its texture might have been softened and broken down; and a defective decarbonization of the blood might well serve to explain the latter occurrence. The small bony excrescence noticed on the surface of the heart, in the neighbourhood of the left auriculo-ventricular junction, when taken in connexion with the actual state of the mitral valve, seemed to indicate a disposition in the ligamentous membranes of this organ, generally, to ossific formations. The sudden manner in which the palpitation succeeded the violent exertion made by my patient, added to his perfect exemption from all similar attacks previously,* inclined me strongly to believe, that the valve itself would be found in a lacerated condition; but in this ex-

* The wife of this person has since learned that, so long ago as last Christmas, he frequently complained to a friend of pain in the region of the heart. But at the time she first gave me an account of his disorder (upon which, of course, my judgment was founded) she was altogether ignorant of the circumstance.

pectation I was deceived. The dissection proved, that, long antecedently to the accident, ossification had commenced; and that the extraordinary effort could have only operated as an exciting cause of all that subsequently happened. The imperfection of the valve was not such, perhaps, at the moment of this athletic attempt, as to unfit it for ordinary purposes; but the event has shown its incompetency to protect the circulation from the disturbance of a great and sudden emergency, from whence sprang a series of calamities which death alone could terminate.

I cannot conclude these remarks without stating my conviction, that, for several weeks previously to the decease of my patient, one lung had performed, though imperfectly, the important office of respiration; a fact which, if not altogether novel, is at least curious in a physiological point of view.

From the Lancet.

DISCOVERY OF A CIRCULATION IN INSECTS.

The following account of circulation in insects, is taken from Professor Carus's Zootomy, a well executed translation of which work has just appeared by Mr. Gore of Bath:—

Professor Carus's observations were first made upon the larva of the *agrion puella*, which swims with great velocity by means of three vertical laminæ attached to the caudal extremity, and diverging from each other at very acute angles. In the young larva, there is no trace of any wings; but as it advances in age, rudiments of wings make their appearance over the rings of the thorax, and gradually increase to their full size, whilst the caudal laminæ, on the contrary, in the same proportion, fade away, and are partially or completely detached. Each of the caudal laminæ, in its natural vertical position, presents an inferior abdominal, and a superior dorsal, edge, has two tracheal trunks running along its centre, and ramifying through it, and consists of granular substance contained between two strata of the external integuments. A current of blood-globules enters each caudal lamina, somewhat nearer to the dorsal than the abdominal margin of the lamina. The path or channel thus formed in the midst of the granular substance is perfectly transparent, except where it is occupied by the blood-globules, or crossed by branches of the trachea. The parietes of the channel are not strictly defined, nor formed by any thing like the coats of a vessel, the blood, with its globules, circulating through the granular parenchyma, a circumstance, however, which is not peculiar to this case, but also occurs generally in the first states of the circulation, as it presents itself, for instance, in the embryo of fishes, and in the figura venosa of the incubated egg. The blood-globules are elongated like a grain of wheat, considerably larger than those of the human blood, and float in a fluid, which is invisible on account of its transparency, but the existence of which is proved by the variations in the position of the globules in the current, sometimes following its direction, at others crossing it transversely, or more or less obliquely.

When the animal is vigorous, this current is unclosing and uninterrupted, although its velocity is accelerated at regular intervals, and that not only in the abdominal or excurrent, (arterial,) but also in the dorsal or recurrent, (venous,) part of its course through the laminæ. When the animal becomes exhausted, or the caudal laminæ exsiccated, the circulation through them is uninterrupted, and, in the same manner, as under the same circumstances in the larvæ of frogs and salamanders, the disturbance displays itself not merely by a cessation of the process, but also by retrograde movements of the currents, or by oscillatory motions of the blood-globules.

In proportion as the wings are developed, the circulation in the caudal laminæ diminishes, and ultimately ceases, preparatory to the detachment of the laminæ themselves. At the same time, however, the circulation presents itself under a new form in the wings themselves. These organs consist of two layers of the integuments, including between them a collection of granular substance divided like network into little islands, by the intersection of transparent canals, the largest of the canals taking its course round the margin of the wing, and the whole organ being interspersed with minute tracheæ. These canals present a circulation similar to that in the caudal laminæ, the excurrent (arterial) stream taking its course along the inner margin of the wing, and the recurrent (venous) returning along the outer—whilst, occasionally, other transverse currents take their course through the net-work of the wing, from its inner to its outer margin. As the wings are further developed, the circulation in them, like that in the caudal laminæ, gradually becomes weaker, and ultimately ceases.

The aquatic larva of the ephemer a *vulgata*, according to M. Carus, presents the phenomena of the circulation with still greater distinctness than the preceding animals, and even more clearly than it is possible to recognise it in the larva of frogs and salamanders. In it the circulation is at once visible (with the microscope) in the three last segments of the body, but by a little attention is discoverable, not only in the three terminated spiculæ, and in the upper phalanges of the legs, but also in the head, and particularly in the roots of the antennæ. In the posterior part of the body, there are on each side two currents of blood, not bounded by any regular parietes like those of vessels situated on each side of the intestinal canal, and rather towards the abdominal surface of the animal: of these two streams on each side, the outer is the smallest, and the inner the most considerable. The external one resembles the lateral current in the larvæ already described, and communicates with the internal by several intermediate branches: it is probable from this one too,

that the lateral streams are detached in the form of loops into the upper phalanges of the legs, though it is not possible precisely to ascertain this point, nor even whether the two lateral currents on each side continue distinct in the thorax, which it is most probable that they do, as the current in the upper phalanges of the legs is of the same size as the external of the two which appear in the posterior part of the body, from which the internal differs by its greater size. At the ninth abdominal segment of the body, these two lateral currents on each side, which flow posteriorly from the head towards the caudal extremity of the body, change their direction, and are inflected so as to enter the pulsating heart, from which the current of blood is again impelled towards the head. Before the lateral currents enter the heart, they give off three streams, one for each of the three caudal spiculæ, running through the greater part of the length of each spicula, and being then suddenly reflected towards the heart. It is not possible to ascertain precisely from which of the two lateral currents of the body these caudal streams are detached, though, most probably, from the external; that they come direct from the heart is improbable, as the excurrent (arterial) division of each (caudal) stream corresponds to the abdominal surface of the spicula, and the recurrent (venous) to the dorsal, the heart being situated on the dorsal, and the lateral currents on the abdominal aspect of the body. The currents in these caudal spiculæ present the phenomena of the circulation with peculiar distinctness, and are particularly remarkable from the circumstance that the excurrent and returning streams, though in close approximation, and not separated in any visible manner, continue to flow without disturbing each other. The excurrent stream is accelerated at regular intervals, corresponding to the pulsations of the heart; the recurrent, on the contrary, being always somewhat more sluggish, and the first to stagnate and cease, when the strength of the animal is impaired.

When the extremity of one of the caudal spiculæ is cut through, the blood-globules are expelled in some quantity with an evident jet, and accumulate on the injured surface, where, when they are dried up by exposure to the atmosphere, they change their natural limpidity for an evident apple-green colour.

It has been already mentioned, that the heart propels its contents through the anterior part of the dorsal vessel towards its head; the current, however, in the thorax, and in the upper part of the head, is concealed by the opacity of the horny segments of the cutaneous skeleton, and by the contents of the stomach. In the anterior part of the head, however, we can discover currents in the roots of the antennæ, forming loops like those in the legs, the current in each preceding from the cranial surface of the head, and in returning through the root of the antennæ, taking its course towards the laryngeal region. Nay, by means of the direct light of the sun thrown on the object, an indistinctly defined, but very evidently existing, current may be traced forwards through the thorax and over the upper part of the head, and may be seen to be reflected towards the posterior part of the body in the laryngeal region. Hence, consequently, this larva presents the first instance in which it was possible to trace a true and perfect circulation through the whole body.

The endeavours of M. Carus to discover any evidence of a circulation in fully developed insects, *e. g.*, house flies, gnats, ephemeræ, &c., were without success until a very recent period (May, 1827.) On examining the ways of the semblis *vividis*, immediately after its metamorphosis from the larva state, he discovered the circulation through all the vessels of the wings with the utmost possible distinctness. The wings were still soft, but perfectly developed for flight; the circulation was still visible, though in a less vigorous state, two days afterwards, when the animal died. Still more recently he has observed currents of blood in the larvæ of water-beetles, (hydrephilus and dyticus,) and adds, from a notice by A. V. Humboldt of the travels of Ebrenberg and Hemprich, (in Africa?) that those naturalists have also observed similar currents in the wings of a maubis. Hence it follows, that even at this early period of the discovery, a circulation has been detected in four orders of insects, viz., neuroptera, coleoptera, diptera, and orthoptera, a circumstance that affords the strongest excitement to further investigation in other insects, and under various circumstances.

Of the objects and character of this circulation little can at present be said; its existence, however, in the rudiments of wings tends, in a very remarkable and unexpected manner, to confirm the idea deduced by Oken from analogical considerations, viz., that the wings of insects are exsiccated gills. As regards the cessation of circulation in the perfect insect, or rather its limitation to the dorsal vessel, M. Carus endeavours to show that, though an extreme instance, there are analogous cases, in which, though of less extent, a circulation that once existed no longer presents itself in the fully developed state. Thus, the medulla contained in the cavities of the bones of young birds disappears as they advance to full development, and with it the vessels by which it was supported. Such, also, is the case with their feathers, which, in the early periods of their formation, are exceedingly vascular, and thus, probably, connected with the respiratory function. So, also, in the fœtus of mammalia, the allantoid circulation disappears, and its vessels are obliterated in proportion to the development of pulmonary respiration. The fact that the currents of fluids in the larvæ of insects are not defined by vascular parietes, enables us to comprehend the rapidity and facility with which the traces of the circulation are lost in the perfect insect. On the other hand, the existence of a circulation at one period, and its cessation at another, elucidate many circumstances connected with the physiology of these animals; for instance, the con-

trast between the rapid growth and transformation of the larva, and the stationary existence of the perfect insect; the inconsiderable size to which the body attains in this, as compared with other classes of animals; the frequently very short duration of the existence of the perfect insect, in proportion to the prolonged periods of its larva state; its almost total independence of nutrition; and the absence of the power of reproducing parts that have been lost or destroyed.

It still remains to determine at what period of development the phenomena of the circulation first present themselves; to observe more precisely its occurrence in other orders and species, particularly those where the larva is not aquatic, and where, perhaps, it exists only in the ovum; to fix the period and manner of the cessation of the currents of blood, and to distinguish, on the one hand, the cases where the circulation may be supposed to cease, even in the larva state, or, on the other, to continue in the perfect insect.

Lastly, it may be remarked, that the phenomena of this circulation, so far at least as it has been traced, do not throw any light on the obscure subject of the mode of nutrition in perfect insects, which, therefore, must still be supposed to be effected, according to the idea of Cuvier, without the intermedium of vessels. On the other hand, the demonstration of the original existence and subsequent cessation of a circulation, renders more than ever untenable the hypothesis lately suggested by Dr. Kidd, (Phil. Trans. 1826,) that the tracheæ, already recognised as respiratory organs, are, at the same time, employed in the conveyance of nutritive fluids.

From the London Medical and Physical Journal.

MEMORANDUM OF TWO CASES OF CÆSAREAN SECTION, *performed at the Civil Hospital, Prague.* Communicated in a letter from Dr. Lefevre to Mr. Travers.

During my stay at Prague, I had an opportunity of seeing two women who had undergone and recovered from the Cæsarean operation. The one was a Jewess, very much deformed by curvature of the spine, and of very small stature. She was pregnant three years ago for the first time, and was twenty-seven years of age. She was three days in labour, and had no other assistance than that of a midwife, who did not even attempt to deliver her by means of instruments. On the fourth day she was conveyed to the hospital, and, as the pelvis was found on examination to be excessively contracted, the Cæsarean operation was immediately determined upon, and performed by Dr. Fridzt, surgeon and clinical professor to the Civil Hospital at Prague. The operation was not followed by any serious consequences, and the patient was dismissed cured. Upon examining the woman by permission of the professor, I found a cicatrix extending from the umbilicus to the symphysis pubis. As the body was much inclined towards the left side, so the cicatrix was of a semilunar form, and the integuments of the abdomen were plaited as it were in large folds. It is more than three years since the operation was performed; the woman is in perfect health, and gains her bread by labour. She complains only occasionally of pain and numbness in both thighs.

The second case was still in the hospital, and had been operated upon eight weeks previous to my seeing her. She is the wife of a Bohemian peasant, and has had one child,—the labour was perfectly natural. She became again pregnant, and gestation went on naturally till the end of the sixth month, except that the tumour of the abdomen was more projecting than usual, and inclined towards the right side. After the sixth month, the movements of the child were not sensible; the breasts became enlarged, and milk oozed from them for a short time. There was also slight uterine hemorrhage. At the end of the ninth month, labour pains came on, were very severe, but subsided, and returned at intervals of ten days till the end of the eleventh month. She was at this time taken to the hospital, and examined by Dr. Krombohoff, professor of midwifery in the University of Prague. He found a spheroidal tumour in the vagina, and the os-uteri turned towards the left side. The case was pronounced one of extra-uterine pregnancy, and the woman was conveyed into the surgical wards, and operated upon by Dr. Fridzt. The incision was six inches in length, extending from half an inch below the umbilicus to the symphysis pubis. The head of the child, which presented, was extracted by a simple manœuvre. The placenta and membranes were left in the abdomen. The child had been dead apparently some time. The wound was united by means of adhesive plaster, about an inch of the inferior portion being left open for the escape of fluids from the abdomen. These were the only means employed. She was once bled from the arm, and leeches were once applied. The wound is now almost completely healed, a small fistulous opening remaining only at the inferior portion, from which a healthy pus is secreted. She is now taking tonics, and is allowed meat, but neither wine nor beer. The functions are all becoming natural. Stools have hitherto been procured only by means of enemas. The countenance is animated and cheerful; the pulse small, but not irritable; the appetite good. I saw the woman three times during my stay at Prague, and there is every probability of her speedy recovery. The name written on the board at the head of the bed was "Pototza Veronica, æt. thirty-two, operat. 10 July." I requested Dr. Fridzt to allow me to have a statement of the case in writing, to which he most kindly consented, and to which he has subscribed his name.

I enclose it as it was drawn up by a German student: it contains merely what I have writ-

ten. This is the third operation performed at this hospital by the same professor: one of these only had failed.

CASE OF ENORMOUS EXOSTOSIS OF THE STERNUM.

In a former number, we related an extraordinary case of osteo-sarcoma of the ileum and femur, where the bony growth measured twenty-four inches in circumference, and which is now rapidly tending towards a fatal termination. The following account will show to what a size pure exostosis can attain, and will likewise exhibit the difference between it and the true osteo-sarcomatous enlargement.

———, about 50 years of age, was sent to the Hospital by Dr. Scott, of Barnes. Arising by a very broad attachment, from nearly the whole of the sternum except the superior part of its upper bone, adhering to the cartilages of the ribs and extending so far outwards as to elevate the papillæ, is a very large osseous tumour, measuring eighteen inches in circumference; its surface, which is smooth and not marked by any of those protuberances which were a distinguishing feature in the case of osteo-sarcoma, is evidently composed throughout of the same solid materials, and does not afford to the finger that feeling of elasticity which was experienced in the other, at those places where the fleshy intermixture existed. The integuments covering the swelling are much stretched, and have become, at the most protuberant point, inflamed.—The disease is attended with little pain, and is principally inconvenient from its size and weight. His general health is in a very indifferent state; he is dyspeptic, subject to rheumatic attacks, and occasionally suffers from dyspnœa.

The tumour commenced nine years ago, without any apparent cause, with general enlargement of the sternum at that surface where it is now attached, which has gradually increased till it has assumed its present immense size.

The treatment recommended was, great attention to the general health, the use of alterative medicine, the repeated application of leeches to the tumour, and after the employment of these means the insertions at its base, of two or three small setons.—*Lancet.*

From the Lancet.

PALSY OF THE LOWER EXTREMITIES, *occurring suddenly, and independent of Injury to the Spine.*

The following case of palsy of the lower extremities, taking place suddenly, and without the occurrence of injury to the spinal marrow, or any evidence of cerebral disease, is highly interesting. It will be observed from the history of the case, that the disease was preceded by a disordered state of the alimentary canal; and when we consider that in children paralysis is a frequent occurrence, from irritation in the primæ viæ, especially during the progress of dentition, it is not difficult to suppose that, in the present case, the disease was *sympathetic;* that is to say, mainly dependent on the depraved condition of the stomach and bowels.

H. Smith, a pallid, unhealthy-looking young man, was admitted into Luke's ward, under the care of Mr. J. H. Green, on the 12th of July, on account of swelled testicle, and enlarged absorbent glands of the testicle.

He had been in the Hospital about three weeks, under treatment for these complaints, when, in the course of a night, having previously eaten a hearty supper, he found himself very unwell, having a sensation of chilness, with much uneasiness at the pit of the stomach: his bowels had not been moved for two or three days. He got out of bed, and in attempting to walk, found that he staggered very much; he laid himself down again and slept; but in the morning found that his lower extremities were completely paralytic—devoid both of sensation and volition. He experienced at this time considerable pain in the upper part of the loins; when visited by Mr. Green on the same day, the spine was examined carefully, and there was some tenderness manifested on making pressure in the upper dorsal region. Mr. Green therefore directed cupping-glasses to be applied to this part, a strong purgative dose of calomel and scammony, with a terebinthinate enema, to be administered. Subsequently, cupping was had recourse to, under the direction of Dr. Williams, at the epigastric region; the back was also again cupped, and blisters repeatedly applied. These, with the occasional exhibition of purgatives, were the principal means employed, and with a beneficial result, the paralytic affection gradually lessening. On the 8th of September, sensation in the lower extremities was perfect, as were also the motions of the limbs, apparently; but the patient stated, that on attempting to walk, he found such a weakness in the back, that he could not support himself in an erect posture. He continues in the Hospital at present.—*St. Thomas' Hosp.*

From the Medico-Chirurgical Transactions.

CASE OF INJURY OF THE HEAD.

By Dr. Rogers.

Mark George, æt. 19, on Sunday morning, July 10, fired off a gun at some crows, which, being overcharged, burst, and injured his face and head in a most dreadful manner. He was able to walk some hundred yards immediately after the accident, but at length, being overpowered by loss of blood, he fell, and was conveyed to a neighbouring house. Shortly after he become convulsed, and was totally deprived of his senses. In this condition I first saw him, when the assistance of three or

four persons was required to keep him sufficiently still to enable me to examine a wound of considerable extent on the forehead, just above the centre of the left superciliary ridge. After enlarging the external wound I discovered an aperture, about the size of a crown piece, in the frontal bone, through which a considerable quantity of the substance of the brain was oozing, and as much as a table-spoonful adhered to the hair and integuments around. Having fully exposed to view the nature of the injury, I gently carried my finger round the jagged edge of the bone, and introduced it within the aperture, in order to ascertain whether any fragments of bone were lodged there; but as far as I could feel I did not discover any. The wound was lightly dressed, and about sixteen ounces of blood were taken away from the arm, when he became more composed, and passed a tolerably quiet night. Both the eyes were closed from tumefaction of the palpebræ, and the face was also much bruised and swollen. The next morning he was more tranquil, and appeared sensible when questions were put to him; the bowels were properly attended to, and saline medicines with antimony administered every fourth or sixth hour. Fomentations were applied to the face.

July 12.—Symptoms favourable, except the pulse, which, although not exceeding forty, was extremely tense and full. Fourteen or sixteen ounces of blood were therefore taken from the arm, and a purgative given. His nourishment consisted of tea and thin gruel.

July 13.—The pulse was somewhat quicker and softer. The dressings were removed altogether, and a soft poultice applied, except immediately over the wound, where a light dossil of lint with a pledget of cerate dressing was placed. The surface of the skin was moist and temperate, his sleep undisturbed, and he appeared quite rational and collected in his answers to the various questions put to him by the attendants.

July 14.—Went from this period until the 21st with little alteration in his symptoms, when, from fresh accession of febrile heat and irritation, it was judged expedient to repeat the bleeding from the arm to the amount of ten or twelve ounces, and to counteract the stimulus excited by the heat of the atmosphere at this time, the room was kept as cool as possible, and his body and extremities were frequently sponged with cold vinegar and water.

July 22.—Passed a better night, and appeared altogether more comfortable. The wound was lightly dressed in the centre, and the surrounding parts continued to be fomented and poulticed three or four times in the course of the day: the fœtor from the wound was great, and the discharge very copious, but the surrounding soft parts had a healthy aspect.

July 25.—Symptoms generally favourable, no increase of heat, pulse tolerably soft, sleep almost natural, bowels regularly relieved, perfectly sensible, but the discharge from the cavity very abundant on each removal of the dressings.

July 27.—More pain in the head, bowels not relieved, some stiffness in the lower jaw, greater reluctance in answering questions.

July 28.—The bowels relieved by a purgative enema, stiffness of the jaw gone off, more collected.

July 29.—Able to take more nourishment than during the last two or three days, but still some sense of choking in the throat, and difficulty in swallowing; the discharge from the wound profuse; a little inclination to drowsiness, but nevertheless perfectly sensible; pulse about sixty, soft and regular.

August 1.—The difficulty of deglutition nearly subsided, and he was able to take a draught of port wine and water, broth, &c.

August 2.—The discharge continued very abundant, and the bodily strength apparently affected by it; but by improvement in diet, and giving pulv. cinchonæ ℈j every six hours, no other unpleasant symptom followed.

August 4.—Upon touching a point within the cavity, thinking it looked like a portion of bone, I was astonished that it resisted the probe like a harder substance than bone, and upon examining it with my finger I thought it felt like a portion of iron. I attempted to get hold of it with a pair of common forceps, but it repeatedly slipped from my grasp, and as it appeared to give the boy excessive pain (like drawing out his eye, as he expressed it,) I desisted.

August 5.—I more distinctly found that the substance was iron, and that the projecting part of it resembled a screw. I now procured the assistance of four persons, in addition to that of Mr. Smith, a medical practitioner who attended with me, and after many efforts and considerable manual exertion, I succeeded in removing the substance from the head. I found it impossible to get sufficient hold of it to extract it by means of the forceps, I therefore made use of the common trephine elevator, with which I raised it from its bed, when the subsequent part of the operation was very easy. The body extracted proved to be the breach-pin of the gun, consisting of solid iron, three inches in length, and weighing exactly three ounces. I left him tolerably quiet and easy, betraying no additional unfavourable symptoms, the wound was dressed light and simply. The operation did not occasion any hemorrhage.

August 7.—For many days from this time no interruption occurred to his gradual improvement; but two or three small portions of bone came away with the dressings.

On the 16th he was carefully removed to his own home about a mile distant: he bore the removal without much fatigue.

August 25.—Going on well, the cavity is gradually filling up, and the adjacent parts look healthy; he is able to sit up an hour or two in the day.

September 4.—Remains in an improving state, free from any stupor, weight, or lightness of the head; is able to walk about a little

in the house; sleeps well; bowels regular, without the assistance of medicine; appetite good, and perfect recovery appears certain at no very distant period.

September 27.—Very much improved; some more small pieces of bone have come away, and probably more will be thrown out before the wound closes.

November 3.—The boy has continued in a favourable way, a few more small portions of bone have separated from the wound. He walks about, but is not allowed to exert himself in any way.

November 20.—A further separation of bone has taken place, but yet not altogether sufficient to make up the quantity destroyed, more however appears forthcoming. The boy continues extremely well.

December 10.—The boy is now in good health, no further exfoliation has taken place since the last report.

The following particulars have been obtained from the boy and from his mother, who has closely attended him throughout his confinement from the accident:—The boy says that he remembers hearing the report of the gun when he shot at the crow; also that his little brother (who was with him at the time) walked with him into the yard, but that he was obliged to stop several times from faintness. He remembers his father coming to him in the yard. Of what took place for the space of a week after his being taken into the house, he does not appear to have any recollection, although he certainly answered questions, put to him after the first day from the accident, correctly and consistently.

After the first week he readily knew persons who came to see him by their voices, when his eyes were perfectly closed from swelling of the palpebræ.

The sight of the left eye is totally destroyed, but that of the right remains perfect. The smell and hearing are both perfect, which his mother has had frequent opportunities of ascertaining, and she has not found any defect in regard to his memory or general mental faculties since the accident. There does not appear to be any difference between the two sides of the face and head, in point of sensation or power of motion.

Remarks on the preceding Case, by F. Tyrrell, Esq. Surgeon to St. Thomas's Hospital. —Many cases are recorded in which large portions of the cerebrum have been lost without any immediate or subsequent derangement of the mental or corporeal functions; but I am not aware that any case has been attended with the lodgment of so large a foreign body in the cavity of the cranium, for so long a period as twenty-seven days, with the production of so little mischief.

In the first instance we may easily suppose that a portion of the cerebral mass, adequate to the bulk of the breach-pin, escaped from the aperture in the frontal bone immediately the injury was inflicted, and that thus the surrounding parts of the brain could not suffer from compression; but it appears strange that the violence which must have been necessary to force so large a body into the cranium should not have produced more concussion of the cerebral mass than seems to have taken place; perhaps the loss of blood soon after the injury may have prevented the appearance of more urgent symptoms.

The position in which the breach-pin lay was with the screw to the aperture, and the other extremity towards the ear of the same side; the long limb was placed outwards, the short one inwards. From the length and situation of the breach-pin it appears certain, therefore, that both the anterior and middle lobes of the left side suffered; the former must have been very extensively lacerated at its anterior, inferior, and outer parts, the latter probably at its outer part only: thus the mischief appears fortunately to have been confined to parts of the cerebrum unconnected with any nerves essential to the support of the vital functions.

When we consider that not only this solid iron body, but that numerous irregular portions of bone were also lodged for so long a time in the substance of the brain and pressing upon its membranes, it does seem most extraordinary that the boy should have experienced so little inconvenience or suffering.

From the force necessary to extract the iron, I think it not improbable that the extremity of the long limb had penetrated the skull at the lateral part, and that it was thus fixed. Had it been perfectly loose in the cerebral mass, I should imagine that it motion, when the boy changed the position of his head, must have occasioned great suffering, and have given rise to symptoms much more severe than those experienced.

The next extraordinary feature in this case is the trifling effect occasioned by the removal of the breach-pin; the surrounding parts must in a degree have accommodated themselves to its presence, and from a fresh disturbance I should have expected considerable irritation and inflammation to have followed. As the hemorrhage produced by its removal was very trifling, it could not have had any effect in preventing unpleasant symptoms.

From the Edinburgh Medical and Surgical Journal.

Versuch einer kritischen Geschichte der bei Vaccinirten beobachteten Menschenblattern, nebst Untersuchungen über die Natur, die Ursachen, und die Verhütung dieser Krankheit.—Von Dr. A. F. Lûders, &c.

A Critical and Historical Essay on Small-pox, as it occurs after Vaccination, with an inquiry into its Nature, Causes, and Prevention. By Dr. Adolphus Frederick Luders, Physikus of Eckenfôrde in the Dutchy of Silesia, Fellow of the Royal Medical Society of Copenhagen. Altona, 1824. pp. 226, 8vo.

2. *De Varioloidibus et Varicellis.* Scripsit Nic. Christianus Mohl, &c.

On Chicken-pox and the Varioloid Diseases. By N. C. Mohl, Joint Physikus of Copenhagen, and Fellow of the Royal Medical Society of that city. Copenhagen, 1827. pp. 111; 12mo.

There are now, we should apprehend, few British practitioners, whose doubts are not completely dispelled as to most of the questions regarding the antivariolous effects of vaccination, which have been made the subject of general controversy during the last ten years. But it is only of late that the opinions embraced in Britain have been generally received on the continent, particularly in Germany. Notwithstanding the conclusiveness and authenticity of the facts which were presented to the public in this country at an early period of the varioloid epidemic, and the readiness with which, in the course of two or three years, almost the whole profession in Britain were in consequence prevailed on to abandon several of their favourite doctrines and deep-rooted prepossessions, our continental brethren considered the reform too abrupt and too important to be transplanted among them, so long as it was recommended by the authority of foreign experience alone; and they have hesitated to follow our example, till its necessity has at length been forced upon them, by the breaking out of a similar varioloid disease within the sphere of their own observation. Dr. Luders has very ingeniously confessed his own and his countrymen's obstinacy in this respect. A varioloid epidemic, however, having broken out in various parts of the north of Europe in 1822 and subsequently, they have had an opportunity of subjecting to examination the statements originally made in this country, and first of all in Scotland; and the result has been, that the opinions of almost all physicians of eminence in Germany and Denmark now coincide with our own. We shall presently find, from the works of Dr. Luders and Dr. Mohl, that this examination has not been conducted without several interesting additions having been made to our knowledge.

The authors are placed in circumstances singularly favourable for investigating accurately and completely the subject of variolous contagion in all its relations. Living in countries where the efforts of the respective governments to diffuse vaccination have long been indefatigable, and have in consequence been attended with extraordinary success, they have had an opportunity of witnessing the introduction and extension of small-pox in districts where it had long been almost or altogether unknown; and they have also enjoyed the rare and important advantage of each holding the office of *Physikus* or Police-physician for an extensive population, in virtue of which office they have charge of all matters which concern the public health of their district, and in particular are brought directly in contact with every contagious epidemic in all its ramifications. The topics to which their attention has been chiefly turned are—the conditions under which the varioloid disease makes its appearance,—the proposition advanced in 1818 by our townsman Dr. Thompson respecting the identity of small-pox and chicken-pox and the varioloid disease—and the characters of the true chicken-pox, by which it is distinguished from the varicelloid form of modified small-pox. It is on account chiefly of the two last topics, that we propose to turn the reader's attention to the works of Dr. Luders and Dr. Mohl,—the questions involved in them being still made the subject of dispute by the followers of Dr. Thompson's opinions, and the experience of the authors having supplied the medical world with some additional information, which will go far to satisfy all unprejudiced minds where the truth lies.

We shall in the first instance, however, take some notice of what they have said on the causes of the varioloid disease and the conditions under which it originates, because their observations afford proofs on an extensive scale of the accuracy of the doctrines now generally received in Britain regarding the relation in which it stands to small-pox, to vaccination, and to inoculation.

On this subject Dr. Luders has adopted many of the erroneous notions entertained throughout this country when the varioloid epidemic was first announced by the practitioners of Scotland in 1817, 1818. He maintains that the varioloid disease *never occurs after regular vaccination;* and in support of this statement he mentions, that among 223,939 vaccinated between 1801 and 1822 in Holstein, where the measures taken by the government ensure a perfect vaccination, there had occurred down to 1824 only two cases of secondary small-pox; and that in Denmark, among 447,605 vaccinated, only one such case has been met with. He then goes on to state, that the causes of the frequency of the varioloid disease in other countries, and especially in Britain, have been, first, the formation of too few vaccine pustules; secondly, when there was only one pustule, the opening of it accidentally by friction or intentionally to withdraw lymph; thirdly, the employment of vaccine matter of inferior virtue, calculated to produce only a modified vaccine vesicle; fourthly, modification of the vaccine vesicle by constitutional causes, such as cachexia depending on scrofula, syphilis and the like, or convalescence from a violent or exhausting disease; fifthly, modification of the vaccine vesicle by the coexistence of constitutional cutaneous diseases; sixthly, modification arising from external applications, such as camphor, and mercurial or saturnine ointments; seventhly, modification arising from the co-operation of internal remedies, such as mercury, salpetre, or a course of laxatives. Under the third of these heads, on the employment of inferior vaccine virus, he states as causes of its inferiority, first, its having been taken from a vesicle on the teat of the cow not really vaccine in its nature; secondly, from the modified vesicle produced in those formerly vaccinated; thirdly, from the modified vesicle of those who have previously had small-pox

naturally or by inoculation; fourthly, from the modified vesicle frequently produced even by good matter in the less impressible constitutions of adults; fifthly, from the modified vesicle in cachetic habits even among children; sixthly, from the modified vesicle of persons who have at the same time had some cutaneous disease; seventhly, from vesicles which had been some time previously broken; eighthly, from vesicles of too old standing; ninthly, from a dropsical vesicle; tenthly, its having been kept too long after removal from the vesicle; eleventhly, its having been spoiled, though recent, by damp, acid fumes, strong-scented vapours, &c.; and in the last place, its gradual degeneration in consequence of being transmitted by the reproduction of the vaccine vesicle in a great number of individuals successively. He winds up this enemeration by attributing the frequency of secondary small-pox in Britain to the effect of the above-mentioned causes in producing an imperfect vaccination, which, he thinks, must often escape the notice of the profession on account of the careless way in which the progress of the vesicle is watched even at the various public vaccine institutions.

Many of the foregoing statements of Dr. Luders were some time ago advanced in Britain by the believers in the absolute antivariolous power of vaccination, in order to account for its occasional failure, but have by subsequent experience been proved to be erroneous, to the satisfaction of every physician of note in the country. It may appear almost unnecessary therefore, for the sake of the English reader, to put Dr. Luders right. But, although the truth has been pretty satisfactorily established, it may not be amiss to notice shortly the results of Dr. Mohl's inquiries, which are very pointed and conclusive, and in accordance with all the leading views adopted in Britain.

In the first instance he supplies us with a contradiction to the superior immunity from the varioloid disease, claimed for the inhabitants of Denmark by Dr. Luders, in consequence of the strenuous measures taken by the government to ensure the propagation of a perfect cow-pock. If it is true, that only one case of variola occurred among the vaccinated in Denmark, between the years 1801 and 1822, this extraordinary immunity must have been owing, not to any superiority in the method of vaccinating, but to more accidental causes, and most probably to the want of a variolous epidemic of sufficient malignity. For Dr. Mohl, *physikus* of Copenhagen, states, that in the three years preceding 1827, 659 cases came under his care in that city. Such being the fact, it may be anticipated that Dr. Mohl does not attach much importance to the effect of the various causes of a modified vaccination, in engendering the varioloid disease. Accordingly, he assures us he has seen as many attacked among those who had the cicatrices of four or six vesicles, as among those who had one only; that he has never been able to discover any facts in favour of the notion, that opening the vesicle lessens its preservative power; and that there is as little ground for believing that the vaccine matter has in the course of time degenerated by frequent transmission in the human subject.

On the last important point Dr. Luders affirms, that the vesicles which are formed by matter procured by successive reproduction from the original virus which was imported from England, have a less areola, and excite less constitutional irritation, than those formed by virus from the cow after only three or four reproductions in man; and that he now meets with modified vaccine vesicles more frequently, and large, unequivocal, genuine vesicles more rarely, than when he began to vaccinate. But Dr. Mohl states distinctly, that in Copenhagen the vesicles continued to correspond exactly with the original description of Jenner, and that in the late epidemic of that metropolis those recently vaccinated were protected not less, but rather more effectually, than those who had been vaccinated ten or twenty years ago. But more of this presently.

Dr. Mohl's account of the circumstances under which the varioloid disease occurs, is much more accurate than that of Dr. Luders. He observes, that it occurs even among those who have had neither small-pox nor cow-pox; for of 158 cases of small-pox in the unprotected, seventeen had it in its modified form:—That it occurs after small-pox, whether natural or inoculated, and that in such cases it is often a dangerous disease, 31 out of 153 having died:—That it does not occur either in them or in the vaccinated, unless a particular epidemic constitution co-operates:—That it sometimes attacks those who have been vaccinated in the most regular and perfect manner:—That the varioloid disease is not materially modified by vaccination, unless the areola of the vaccine vesicle is fully formed before the variolous eruption breaks out:—That the modification is greater, and the disease milder, if vaccination has been performed a considerable time before:—But that the period within which this rule applies is not unlimited; for *after the first two or three years the varioloid disease is both more frequent, and more severe, the greater the interval which has elapsed since vaccination.*

This last position deserves particular notice, being one upon which the opinions of practitioners are still undecided, and which points at a very essential addition to the present method of practising vaccination. Dr. Thompson maintains, as the result of his experience, that the modifying or preventing powers of vaccination are not weakened by time, (*Account of the Varioloid Epidemic of Edinburgh.*) Dr. Luders is of the same way of thinking; for he asserts,—not, however, from personal experience,—that modified small-pox occurs between three weeks and twenty years after vaccination, without the disease appearing to be rendered either milder or more severe by the intervention of a long interval, (p. 103.) But the observations of Adams, Gregory, Cross, Elsasser, Crowfoote, Oswald, and others, have tended to show that the disease is both more frequent and more violent, the longer the in-

terval which has elapsed after vaccination; and the evidence of Dr. Mohl is very pointedly to the same purport. Of 653 cases of modified small-pox among the vaccinated, none were under three years of age, only fourteen under five, 102 between five and ten, 173 between ten and fifteen, 187 between fifteen and twenty, 156 between twenty and twenty-five, and twenty-one above twenty-five. As the circumstances under which vaccination has been long practised in Copenhagen render it probable, that a very great proportion of those who have had the cow-pox, have had it in infancy, the foregoing facts supply very pointed proofs of a gradual wearing out of its preservative power. Such is the conclusion at which Dr. Mohl necessarily arrives. "I confess," says he, "I am led from these facts to the opinion that the power of vaccination over the human system is in many persons diminished by time; —in many, I say, but not in all, for I have known several persons who were vaccinated twenty years ago and upwards, and who have been repeatedly exposed to the contagion of small-pox without catching it. I can by no means therefore agree with the opinion of Dr. Brown of Musselburgh, who lays it down as a general law, that vaccination never excludes the variolous infection longer than five or six years. For the disposition to variola is not the same in all men; so that a remedy which in one will take away this disposition, will in another extinguish it for ever."

We shall no proceed to consider what light the researches of Dr. Luders and Dr. Mohl have thrown upon the opinion advanced in 1808 by Dr. Thomson respecting the identity of the contagion of small-pox, chicken-pox, and the varioloid disease.

Dr. Mohl is mistaken in supposing that Dr. Thomson's opinion has become the doctrine of the profession in general throughout Britain. On the contrary, is has never been very generally received, and, if we mistake not, has fewer adherents now than it once had. But it is still believed by too many, and is altogether too important in its consequences to be disregarded, when the attention is recalled so forcibly to it as by the works now before us. In considering the subject, we shall first recapitulate the leading evidence brought forward by Dr. Thomson, and by the most formidable of his opponents, the reviewer in this Journal of his work on the varioloid epidemic of Edinburgh, (*April* 1820.)

The leading arguments of Dr. Thomson are, first, that all the cases he had seen of varicella occurred at the same time and in direct connexion with small-pox, sometimes appearing to originate in it, sometimes to produce it;—secondly, that he had never winessed chicken-pox in those whose disposition to variola had been extinguished by an attack of the varioloid disease;—and thirdly, that chicken-pox is very rare among those who have not been vaccinated. To these apparently strong arguments the reviewer answers, that Dr. Thomson disregarded the true characters of chicken-pox as determined by the latest and best authors, and confounded with it the vesicular form of the varioloid disease, which, however, may in most instances be distinguished by a faithful observer:—that doubtless the two diseases sometimes alter their characters so as to approach very near one another, and more rarely alter them so much as to be perhaps undistinguishable:—but, that when the term chicken-pox is restricted to the unequivocal and most frequent variety of it described by Mr. Bryce, then will it be found, first, that by natural infection chicken-pox never gives rise to any thing else but chicken-pox; secondly, that by inoculation it never causes the varioloid disease or small-pox; thirdly, that when it is traced ramifying throughout a family or a district, it reproduces itself in the same form and with the same mildness equally in the inoculated, the vaccinated, and the unprotected; and fourthly, that it reproduces itself as often in its mild form among the unprotected as among the protected, even when it prevails so much as to be accounted epidemical; whereas all the facts hitherto collected show, that when the true varioloid disease prevails epidemically, its form in the unprotected is very often peculiarly malignant.

Returning now to the treatises of Dr. Mohl and Dr. Luders, we find the latter states, in reference to the first argument of the reviewer, that he himself, and ten eminent physicians among his acquaintance in various parts of Germany which had been visited by the varioloid epidemic, never saw true chicken-pox engender small-pox. On the second argument as to the effects of inoculation with varicellar lymph, neither of our authors has brought forward any farther facts. On the third argument, its uniformity and mildness in the vaccinated, the inoculated, and the unprotected, Dr. Mohl remarks, that he has seen "chicken-pox always put on the same form in the unvaccinated as in the vaccinated, which would be extremely unlikely to happen, if both originated in variolous contagion (64);" and Dr. Luders observes, that he has often seen "chicken-pox attack equally those who had gone through small-pox, cow-pox, and *chicken-pox*, as well as those who had not had any of these eruptive diseases,—and without the symptoms being rendered either milder or more severe by the previous disease," (*page* 120.) The fourth argument of the reviewer is of course also confirmed by the statements now quoted.

But our authors have likewise added some new arguments, and one of them of very great importance, as Dr. Thompson, in his account of the Varioloid Epidemic of Edinburgh, has ingeniously admitted that the establishing it would go far to overthrow the doctrine he was endeavouring to set up.

Fifthly, then, Dr. Mohl says he has never seen chicken-pox in families where small-pox prevailed at the same time, or recently before; that he has twice or thrice, indeed, seen in such circumstances an eruption resembling chicken-pox, but never a disease corresponding exactly with its characters as they will be

laid down presently, (p. 65.) Dr. Luders, on the other hand, alleges he has seen chicken-pox produced by the variolous contagion. He is therefore inclined to adopt a modification of Dr. Thompson's views, suggested in 1820 by Lichtenstadt of Breslau,* that varicella was originally produced as an offshoot from variola, gradually weakened by being transmitted and modified through many successive generations; that once produced, it has continued to exist as an independent disease, propagating itself, and incapable of propagating small-pox; and that it may still again arise directly, as in the instances he witnessed, in the manner in which it was originally engendered, (p. 125.) The only facts quoted in support of this doctrine, or rather conjecture, are two solitary instances of the common propagation of variola, varioloid disease, and alleged varicella, after exposure to small-pox contagion. One of these cases appears at first sight exceedingly strong: A member of the family had been exposed to the contagion of unmodified variola; and as soon as the existence of the disease was known, namely, on the ninth day, the family was shut up in their house, and the house, which was situate at a distance from any other, was guarded by a sentinel, and access to it was farther rendered very difficult, in consequence of the roads having been blown up by a snow-storm. The introduction of any other contagion, therefore, besides that of small-pox, was extremely improbable. The apparent force of this fact, however, vanishes at once, when we attend to the description he gives of the eruption, in the case which he relates as one of chicken-pox. The eruption was preceded by fever of three days' duration; it assumed at first the papular form, and it seems not to have become vesicular till the third day after it appeared. We shall presently find that this does not by any means correspond with the description of an unequivocal case of chicken-pox.

Sixthly and lastly, both Dr. Mohl and Dr. Luders have supplied Dr. Thomson with materials for the *experimentum crucis*, which he has himself declared would constitute a criterion, and the sole criterion, of the fallaciousness of his views. "I do not think," says Dr. Thomson, speaking of his hypothesis, "I do not think it can be well set aside, till it shall be proved, that chicken-pox occur generally in persons who have not had small-pox or cow-pox, and prevail epidemically without cases of small-pox occurring among them; but of this I find no unequivocal example in the past records of medicine." (*See this Journal*, xiv. 525.) It is no wonder that the records of medicine should have supplied no such example, seeing how imperfectly chicken-pox was till of late distinguished, and still more how seldom till lately a district of country could be said to be without small-pox. But the political condition of Prussia and Denmark has enabled both of our authors to present Dr. Thomson with examples of the most unequivocal nature. "From the year 1809," says Dr. Mohl, "till 1823, there was absolutely no small-pox in this city, while during that period chicken-pox was observed every year; and on that account there is not a Copenhagen physician who entertains any doubt of the specific difference between the two diseases. Betwixt November 1823 and March 1825, while small-pox raged in Copenhagen, chicken-pox still prevailed sporadically, but without our having ever seen them either arise from variolous contagion, or produce variola. When again the small-pox ceased during the five summer months of 1825, chicken-pox nevertheless continued to occur frequently. Next year, when the small-pox epidemic returned, I had frequent occasion to see chicken-pox, but still always under circumstances, which more and more convinced me, that it originated in a peculiar contagion, quite distinct from small-pox," (page 62.) So also Dr. Luders says—"I have observed it every year in abundance, without small-pox having shown itself in any part of the country for a long period either before or after; and it attacked indiscriminately those who had passed through small-pox, cow-pox, chicken-pox, as well as those who had not gone through any of these disorders, yet without being rendered milder or more severe by the previous disease," (p. 120.)

Taking then into account all the five foregoing arguments,—their direct force, as well as the contradiction they give of the statements on the opposite side of the question, we cannot see any reason for doubting that chicken-pox is specifically distinct from small-pox and its modifications. To Dr. Thomson, however, will still remain the merit of having pointed out the resemblance which the two diseases, by mutual departure from their stricter characters, may bear to one another,—a resemblance so close sometimes, that the most experienced will confound them; and of having consequently turned the attention of physicians to the necessity of a more accurate diagnosis between them.

The observation now made leads us in the last place to consider how the diagnosis between small-pox and chicken-pox is to be drawn, and what additional means have been contributed to that end by Dr. Luders and Dr. Mohl. Whoever has attended to the account given of varicella by Mr. Bryce and Dr. Abercrombie will perceive, that most previous authors had included under that designation some varieties of eruptive disorders, which it is impossible to distinguish from the common forms of modified small-pox. And although many, or rather most cases of the kind may be proved to have been cases of the varioloid disease, it is at least highly probable that some of them have been cases of chicken-pox, but in one or other of its irregular forms, to the occurrence of which it is liable as well as every other exanthematic disorder. In defining the disease, however, the leading place must be assigned to its most frequent and re-

* Hufeland's Journal, June 1820.

gular form; and it is obviously to this form alone that we must confine all observations on its origin, contagious nature and the like, otherwise it is impossible ever to arrive at any certain conclusions.

A great deal of attention has been paid to this subject by Mr. Bryce, Dr. Abercrombie, and the reviewer of Dr. Thomson's work; and the result has been, that, in opposition to the opinion of Dr. Thomson regarding the impossibility of distinguishing chicken-pox from small-pox, or of embodying in words the idea currently entertained of a pure case of the former disease, we are now in possession of a minute and faithful delineation, which no one can be at a loss to apply in practice. Summing up what had been previously written by Mr. Bryce and Dr. Abercrombie, and adding his own observations, the reviewer states, that the proper unmodified chicken-pox is distinguished, first, by the eruptive fever being generally slight, whereas that of modified small-pox is generally sharp, and of several days' duration; secondly, by the eruption being vesicular from the beginning, or at least from an early period of the first day,—not papular, as the vesicular form of the varioloid disease always is for a day or more; thirdly, by the absence of a tubercular basis when the vesicles are fully formed,—the vesicles of chicken-pox being hardly accompanied by any swelling around them, while those of modified small-pox are in the first instance elevated on solid tubercular bases; fourthly, by the great thinness and fragility of the cuticle covering the vesicles. In applying these characters, it is added, two precautions must be be observed: On the one hand the eruption must be seen as early as the second or third day, because at a later period the chicken-pox eruption sometimes acquires a tubercular base, and the varioloid eruption loses it; and on the other hand the judgment must be directed by the general eruption, not by the appearance of a few vesicles differing from the generality.

To these characters others of some consequence have been added by Dr. Mohl and Dr. Luders. Dr. Luders says there is a difference in the seat of the eruption. The varioloid eruption is formed in the true skin, as is shown by the hard, elevated base, which remains after the lymph is removed by puncture and pressure, (*page* 111.) Chicken-pox, on the other hand, is situate in the cellular tissue between the skin and cuticle. This may be perceived, as Mr. Bryce also formerly pointed out, by opening a vesicle, and examining its edge after the lymph has run out; no excavation or elevation will be perceived, but a surface level with the surrounding skin, (*pages* 111 *and* 134.) Notwithstanding the clear and simple diagnosis which this description supplies, it is quite plain that Dr. Luders has repeatedly, as in the instance formerly mentioned, described under the title of varicella cases really of the varioloid disease. Dr. Mohl agrees with Mr. Bryce and Dr. Abercrombie, as to the rapidity with which chicken-pox assumes its proper vesicular structure. He had never been fortunate enough, he says, to see it on the first day; but on the second day he has uniformly found it vesicular. He farther adds another character, not always present, however, namely, itchiness of the eruption. And he has given a minute description of the crusts, which he says are characteristic, being irregular, uneven, opaque, of a pale brownish or yellowish colour, formed of the lymph and collapsed cuticle, and falling off, as Dr. Monro pointed out, not in a single piece like the crusts of variola, but in small fragments.

Dr. Mohl has added some judicious observations on other forms of eruption admitted as varieties of varicella by Dr. Willan, and his own countryman Heim. While he considers that most of the cases of the kind were actually examples of modified small-pox, he seems ready to admit that varicella does sometimes put on a form hardly distinguishable from that disease. Of this hardly a doubt can be ascertained.

We cannot quit this analysis without warmly recommending to the reader both the works we have been noticing. That of Dr. Mohl particularly is perhaps the best epitome that has yet appeared on the subject of small-pox and chicken-pox.

From the Edinburgh Medical and Surgical Journal.

LITHOTRITY AND STONE-DRILLING.

As the exact date and the precise circumstances of the case of Colonel Martin appear to be viewed with doubt by the authors of the Report on the work of M. Civiale, we give the following account, communicated *verbatim* by Dr. Monro from his father's manuscript lectures, in which we have seen the case. This reference proves indisputably that the date of Colonel Martin's operation was not later, whatever sooner, than 1800.

"Before I conclude this subject, it may be worth while to mention the case of an officer of high rank in India, (Colonel Martin,) who persuaded himself that he might be able to rid himself of a stone in his bladder by rasping and cutting it with a file. He accordingly procured a steel sound of the ordinary length and shape, and about one-tenth part of an inch in its diameter, which was made rough like a file on its convex part and sides for the length of three quarters of an inch from its point. He with much courage and perseverance introduced this into the bladder four or five times a-day, filing the stone for half an hour or so each time, and persevered in doing so for nine months. During that time he rasped off a great deal of powder, and cut off a number off small pieces from the stone, several of which he sent me in a letter under cover to the Right Honourable Sir J. Sinclair, along with the instrument he had employed. He was unfortunately seized at the time he wrote me with liver complaint, of which he died soon after, without having destroyed or discharged the whole stone."

"It appears that the stone had been gene-

rally lodged within and grasped by the sphincter of the bladder, in which situation he could reach it and generally file it without its slipping backwards into the cavity of the bladder."*

"Notwithstanding the progress the Colonel had made in his case, I apprehend there are few readers who would think his method should be prosecuted, and still fewer who would have the courage to practise it."

As far as Dr. Monro can recollect these filings were uric acid; consequently the stone was probably hard.

The following letter from Mr. Liston contains an account of the first case in which the operation of stone-drilling has been performed in this country.

Dear Sir—I send you as I promised an account of the case in which I lately performed *lithotritie*. The patient Peter Runciman, æt. 62, applied to me in the end of July last with symptoms of stone, which he had experienced, as he said, for only four or five months. At that time he was sounded, and the operation of lithotomy proposed, but he was very averse to submit to it. I had a few days before returned from Paris, where I witnessed the operations of Dr. Civiale, and had ordered a set of his apparatus for grinding down the stone in the bladder. I had previously obtained the instruments of Lukens, an American, for the same purpose; but until I saw those of Civiale and their application, I confess that I had no very good opinion of the operation.

Runciman's case, from the short duration of the symptoms, appeared to be a very favourable one for the grinding process, and he very willingly agreed to submit, as soon as the apparatus arrived. The duration of the symptoms I say encouraged me to hope that the stone was of no large size; for in the adult it is no easy matter, whatever may be said by system writers, to ascertain by the rectum or otherwise the exact volume of a calculus. Neither is the duration of the painful feelings to be much relied on, as the present case will show. I may also mention, that I have in my collection stones of very small size extracted from patients above twenty, who had laboured under all the symptoms from infancy; and this morning I cut a young gentleman, who has laboured under the disease since ever he can recollect, and removed a calculus not larger than a walnut. The apparatus of Civiale is graduated on the stalk, and is by no means a bad *lithometer*, if I may use the term. But even with it one may be very much deceived as to the size of flat or irregularly formed stones.

Having accustomed the urethra to the presence of the straight sound by two or three introductions of it at intervals of some days, I performed the first operation on the 26th of September. The bladder being previously injected, I passed the instrument without difficulty; and in fact a little practice will enable any surgeon to introduce a perfectly straight instrument into the bladder, with equal facility and as little pain to the patient as a curved one. The stone was at once seized, drilled, slipped, caught, and drilled again, without the patient complaining of any but slight pain. I was not more delighted with the success than the patient, who immediately after walked home, a distance of two miles. The irritation which followed was not great, and was soon subdued by the use of diluents, and camphor and opiate suppositories.

On the 9th October the operation was repeated, and again on the 18th, 27th, and 31st; as also on November 6th, 13th, and 17th, with various success. At these operations, I was honoured by the presence of many of the most eminent medical men of this city. At each sitting the stone was seized and drilled, and generally without difficulty or pain. From the expansion of the instrument in the operation on the 26th of September, I supposed that the stone was about the size of a walnut. On the last, and one or two other trials, I imagined that it was reduced in size, as I had hold of it pretty firmly with the prongs of the litholabe nearly closed. The shape and indented state of the stone accounts satisfactorily for the deception.

On the 22d November, I sounded the patient very carefully, and was satisfied from the rub over the surface, that there was still a large calculus in the bladder. The old man was now impatient, and talked of being cut. To this I was by no means averse, and accordingly performed lithotomy on the 25th. The operation, rendered more tedious from the impressions of the lithotritor on the edges of the stone, was finished satisfactorily in three minutes. The recovery of the patient has been very rapid, which I attribute in a great measure to the use of the tube which I recommended strongly in a former number of your Journal as preventing infiltration of urine, and which I have since then used in above twenty cases with complete success. I may be permitted to remark, that out of all the patients, a considerable number of whom I have performed the operation of lithotomy, both before and since the publication of the paper I allude to, I have never heard one complain of uneasiness in the hypogastric region, and have never but in one instance, where it was more a precautionary measure than otherwise, had occasion to bleed either generally or locally.

I regret much that the period of your publishing will not admit of my furnishing you with a drawing of the calculus removed from Runciman; for no description can convey a correct idea of its size and appearance. But if you wish it I shall provide one for the next number. It is of a flat spheroidal form, much larger than I could have supposed, and composed almost entirely of uric acid. The measurements are in length, two inches and a

* "Colonel Martin had corresponded with Sir J. Sinclair, and sent him a copy of the letter I received, dated Lucknow, September 5, 1800."

quarter, breadth one inch and three quarters, the thickness eight-tenths. The marks of twelve drillings are distinctly visible on different parts of the calculus, many of them very deep. One has passed entirely through, and four others all but through the smallest diameter.

I find on trials with a stone of the same size and shape, that no secure hold can be taken of it but with the flat side towards the drill. In any other position it saps from the chops of the instrument immediately on the drill being set in motion. The result of this case rather confirms than otherwise the favourable impression I lately entertained of lithotrity. Had the calculus in this case, though of an unfavourable shape, been less hard and tenacious, it must have been destroyed by the fourth or fifth operation. I have no doubt but that *lithotritie* in many instances will naturally supercede *lithotomy*, the dangers of which Dr. Civiale in his work very much exaggerates. I shall certainly make further trials of the former operation, and communicate the results to you.—I am, &c.

From the Edinburgh Medical and Surgical Journal.

A CASE OF ELEPHANTIASIS ARABUM, *with remarks.* By Robert Hull, Member of the Royal College of Surgeons.

In the commencement of September, 1820, I saw Maria Carr, aged 32, who laboured under a great enlargement of the right foot. The morbid growth occupied its upper surface, and projected a great deal beyond the toes and laterally. By its weight it had completely extended the foot; the sole was turned quite backward; and the portion of tumour beyond the toes came into contact with the ground when she dropped the limb. A string passed round the tumour and sole measured two feet and a quarter of an inch; round the part projecting beyond the toes two feet five inches and a half; from the bend of the instep to the extremity of the tumour ten inches. The integuments of the swelling and of the leg, nearly as high as the knee, were discoloured, in some parts of an erysipelatous redness, in others ulcerated and scaly; they presented indurations and hollows which, according to the tale of the woman, indicated the sites of former abscesses. The motion of the ankle-joint was destroyed, and habitual flexion of the leg had left but very little to the knee.

The patient stated that thirteen years ago she struck her shin; that ulceration followed; and that ever since some portion or other of the limb had been ulcerated. That seven years ago she *suddenly felt an agonizing pain extending from her knee to the extremities of the toes, accompanied with vomiting and diarrhœa.* That this diarrhœa lasted three weeks, during which she perceived her foot was swollen, but that she forgets how soon after the commencement of the attack the swelling was remarked. She was, if I remember rightly, bed-ridden many days. That the swelling went on to increase, permitting her for two years still to walk, but totally disabling her from the use of the diseased limb for the last five years: that after the tumour had become considerable she suffered at times exquisite pain therein: that occasional hemorrhages from the surface of the swelling were of terrific character. As her health appeared to suffer seriously, I proposed amputation, which was performed in the presence of my friends the late Dr. Alderson, Messrs. Scott, Johnson, and others, above the knee; for although the leg was of its natural size, the morbid state of the integuments rendered its amputation ineligible.

It was performed on the 29th of September; and of the treatment of the stump I have to remark, that I was not permitted to apply a roller, the woman declaring she could not bear the pressure. A projection of the thigh bone was, as I expected, the ultimate consequence. Yet, on the whole, the state of the patient was favourable. She had even walked about her room on crutches, when, on the 16th October, she had a rigour. On the 19th, when I first saw her after the rigour, I remarked much constitutional irritation, with nausea and vomiting, a pulse of 158 strokes in the minute, *the stump covered with an erysipelatous redness*, and the wound, maintained by the projecting thigh bone, discharging a lymph-like fluid. On the 20th, the erysipelatous redness was fading, but the stump was swelled to about one-half as much again as its proper size; it was tender when touched; the granulations had become white, resembling distended vesicles, and the lymph-like fluid was still discharged. 21st, I discovered that the disorder had attacked the *pudenda externa;* and she now confessed that these parts first swelled after a rigour on the 19th. The labia were monstrously enlarged; a tumour, which seemed to occupy the site of the *glans clitoridis*, equalled the ends of two fingers; there was enlargement within the labia; and many tumours, some pediculated, occupied the perinæum and neighbourhood of the anus. The *mons veneris* was very large, and covered with erysipelatous redness, which extended to the groin. The swelling of the *mons veneris*, she said, had existed about four years; and the hair on that region was very scanty and devoid of colour. 22d, I snipped off two of the smaller tumours, when lymph-like fluid exuded from the cut surfaces. She complained of relaxation of the uvula, which excited efforts to vomit. The reader will perceive how curious was this uvular affection, as existing contemporary with that of the genitals. The integuments of the *mons veneris* and groin now assumed the peculiar dusky red colour of the amputated limb. The cuticle on the hands I observed to be in a scurfy state. She had some liquid stools this day, and on the 24th the labial swellings were lessened. 25th, Discharge from the stump duly purulent. 27th, She prognosticated a rigour from "the vapours" which used to precede, and I prescribed a

drachm of laudanum. No rigour occurred. The great constitutional irritation was diminished on the 29th; her pulse beating 96. About this time I thought that I prevented a rigour, by a scruple of the *pulvis jalapæ compositus*, which excited vomiting.

I am now arrived at an interesting stage of this disorder. On the 2d of November the patient voided from the bowels a lymph-like fluid, similar to that which had flowed from the stump, not small in quantity, and containing lumps perfectly white and jelly-like. The excretion was preceded by pain in the bowels. I had said she had not menstruated thirteen years; but she has had at times "a rush" of white or yellow discharge from the vagina, which, by her own account, resembled what now was evacuated from the anus. It resembled also what on dissection of the amputated limb I had found in the cells of the cellular membrane.

Nov. 4th.—She had much hypogastric pain, which was relieved by purgatives; and on the 5th she voided more of the lymph-like fluid.

Nov. 7th.—She passed a small stool, bloody, and preceded by tormina.

8th.—The abdomen was soft, not tender but on extreme pressure; yet all ingesta excited immediate abdominal pain and vomiting. The confection of opium gave some relief; but the lymph-like evacuations still followed each paroxysm of pain.

11th.—Pain, nausea, and vomiting less; the countenance less anxious; pulse 106. On the 16th, an excessive pain attacked the loins, the pulse beating 150; and an erysipelatous eruption like those already noticed appeared on the back and loins. The constitutional irritation and velocity of pulse continued the following days, but on the 20th the erysipelas had faded from the back, and the pulse fallen to 100.

December 1.—She was attacked with dyspnœa, for which a blistering plaster and anodynes were prescribed. On the 2d, the dyspnœa had disappeared, but the pulse was nearly gone, the face Hippocratic, and at four in the morning of the 3d she expired.

Fifty-six hours after death I examined the body.

The right lung was adherent to the costal pleura by long bands; its substance not a little solidified; and about a pint of serum was effused into this cavity of the thorax. The texture of the heart and great vessels was *very* lacerable.

The abdominal viscera were pale externally. Lymph had been effused from the peritoneal coat of the spleen, producing partial adhesion. There was no ulceration in the intestines; no mesenteric disease. There was an abscess of the left ovary; puriform effusion into the uterine cavity; none into the abdomen or pelvis.

I have intentionally reserved to this place an account of the dissection of the leg, which I performed at the time of amputation. The integuments were much thickened; and the bulk of the tumour formed in the subjacent cellular membrane in some places nearly as dense as cartilage, and similar in appearance. The extremity of the *tendo Achillis*, the cellular substance, the annular and lateral ligaments of the ankle, were blended in one confused mass. About a pint and a half of lymph flowed from the cells between the solid tumour and the muscles and tendons of the foot. The ulcers on the leg had affected its muscles, which were moreover pale and attenuated. The bones of the leg were nodose, and the periosteum was easily detachable from their roughened surface. There was deficiency of animal matter in these bones, but the bones of the foot were especially devoid of it. Anchylosis was nearly complete in the ankle-joint.

This case confirms the opinion advanced by Hillary of the impropriety of amputation in this disorder, which is evidently what he termed elephantiasis, and what Hendy called the glandular disease of Barbadoes. From this history it is evident that that the organs concerned in the production of the swelling were the lymphatic vessels alone; for the woman averred she never had enlargement of the inguinal glands, regarded by Hendy as the more immediate agent in this disorder.

This case likewise corroborates the opinion of Hillary, viz. that the accompanying fever in Elephantiasis Arabum is not symptomatic, as Hendy supposed, but rather essential, the swellings being the result of a critical deposition.

The woman Carr affirmed that accessions to the size of the foot were always sudden, and preceded invariably by the febrile symptoms. The train of symptoms which appeared after amputation in her case remind me likewise of a remark by Hillary, who says, "I once saw a patient where this morbid matter was cast upon the scalp, the ears, and the back part of the neck; and another, wherein the matter was cast upon the lower part of the *spina dorsi*, the *os coccygis*, and the lower part of the loins, at each time of the return of the fever, which was attended with all the same symptoms as when it falls upon the leg."

The character of metastasis, or rather of misplacement assumed by the disorder of Carr in consequence of amputation, was witnessed by Hillary to result from another cause. This physician in deprecating blood-letting, says, "it hinders nature from critically discharging the morbid humour upon the leg, and sometimes turns it upon the vital parts, and proves fatal, as I have more than once seen it."

Even Hendy had made observations, which, had not his mind been pre-occupied by theory, would have led him to a truer conception of the disorder. He says, "I have been thrice called to patients, in whom the bowels have been affected. One of these, being at some little distance from town, died before I could possibly reach the place; and another lost his life before my prescription could be made up. The third lived but a short time after I had seen him. They were all free from any complaint, except the glandular disease, and were

all in health a very few hours before I was sent for."

I cannot doubt that by amputation I accelerated the death of this patient. But I was at that time ignorant of the true character of Elephantiasis Arabum. I had not seen Hendy's Treatise, nor was I aware of the experience against surgical interference which Hillary had asserted, who says amputation "has been often performed, but always without removing the disease; for the fever has certainly returned, and the morbid matter has as constantly fallen upon the other leg, and produced the same effects."

On the nosological character of this malady, the name *elephantiasis* has, I believe, led medical men into an error, which is important in proportion to the frequency of the disorder. They confound the Elephantiasis Græcorum with the Elephantiasis of the Arabians; but these had applied the term to what the Greeks appear never to have noticed. The Grecian elephantiasis was the leprosy of the Arabians: the Arabian elephantiasis was that disorder, of which the "Barbadoes leg," the "Cochin leg," of modern writers are forms. The peculiarity of the latter malady is, that the monstrous elephantine swellings are not the concomitants of a cachectic state, slowly developed as in the Arabian leprosy; nor are they engendered like sarcomatous tumours in healthy frames. But they are formed with repeated attacks of smart fever. Upon every attack there is fresh deposit of tumour; and there is every degree of the disorder, from a slight swelling, which may subside entirely, up to the huge masses, which have certainly, in this disease, derived the name from their bulk and ugliness.

This disease is not so rare as most persons imagine. It may be more general in the West and East Indies; but it is frequent even in Ireland, as may be seen in a paper by Dr. Graves in the the recent volume of Dublin Hospital Reports. Dr. Graves does not think his cases are those of true Arabian Elephantiasis. I believe they are specimens of the same affection, of which the symptoms are accurately and convincingly defined in a work very rare in this country, but published in Paris in 1806. I allude to the production of the celebrated M. Alard,—a work which displays much ingenuity, extensive reading, and philosophical research; and which contains the most accurate history of the phenomena, and the most luminous view probably of the pathology of this disease yet extant.*

I had proceeded thus far with my remarks, when I met with the excellent paper of Dr. A. Musgrave "on the Unmixed effects of Mercury on the System."* It is contained in a recent number of this Journal, and is, I believe, the very first publication which announces confidently remedial measures for the remarkable and important malady of which I have been treating. Dr. Musgrave would term it the "migratory inflammation of the lymphatic system." But it has been denominated elephantiasis by so many modern authors, that it is highly desirable to retain the name, provided this can be effected without confounding the disorder with the elephantiasis of the Greek writers on medicine. This may be done by adding the special term *Arabum* to the common designation elephantiasis. There is abundant evidence that the Arabian physicians were acquainted with this lymphatic malady; that they called it elephantiasis; and that the Greeks gave this name to the lepra of the former. Conceiving this disorder to merit more attention than European practitioners have hitherto bestowed upon it—that it is more frequent than is generally believed—that the treatment hitherto published has been nugatory or pernicious—I earnestly recommend Alard's book for communicating a just and comprehensive notion of the disorder, and Dr. Musgrave's paper for its successful treatment. Neither Towne, nor Hillary, nor Hendy, its first describers in the Western Indies, nor Alard, nor others in Europe, present any certain preventive or remedy for the fever. None of them advise, as does Dr. Musgrave, the *mercurial influence*, of which he says, "I remember no case of fatal metastasis after swelling of the gums had been unequivocally observed." For the local and permanent deposition of lymph, when of magnitude, I should entertain little hope of a cure; yet in a case recorded many years ago in the London Medical and Physical Journal, Mr. Ward of Manchester effected absorption of a vast swelling by the employment of pressure by means of adhesive straps.

* "Histoire d'une Maladie particulière au Systeme Lymphatique, frequente, quoique meconnue jusqu'a ce jour, par M. Alard."—This was published in 1806, and in 1811 a further account was printed, entitled "Nouvelles Observations recueillies sur l'Elephantiasis des Arabes."

From the Medico-Chirurgical Review.

PECULIAR DISEASE OF THE HEART.

[M. Breschet. La Charité.]

Our readers will remember that, within the last year, we described three or four cases of a peculiar disease of the heart—one in the person of the late celebrated Talma—another, from our own practice, the case of the late General Kyd; and one by Cruveilhier. The indefatigable Breschet has dedicated a long article to this subject in the last number of the Repertoire, in which he has collected nearly a dozen of instances of this very curious and rare disease. We shall endeavour to seize the more interesting particulars of this paper for the information of our readers.

1. The first case which M. Breschet has been able to find on record, is one related by

* Vide Monthly Journal of Foreign Medicine for January.

Walter, the father, in the year 1759. The patient was a merchant, 50 years of age, who had, for many years before his death, complained of præcordial anxiety and palpitation of the heart. A pouch was found arising from the left ventricle.

2. After alluding to Dr. Baillie's case, the following is detailed from Zannini, published in 1816. A gondolier, at the age of 19 years, fell and bruised his chest. At the age of 25, he became affected with a complaint of the chest, attended with pain in the side, difficult breathing, cough, and bad expectoration, which symptoms were relieved by bleeding. Soon after this, he felt, for the first time, a pulsation in the *right* side of his chest, attended with a sensation as if a body was moving up and down there. He continued his avocations, and drank much wine. Two years afterwards, he became annoyed with a pain in the region of the heart, which was relieved by bleeding, but continued to return from time to time, especially on using much exertion. He had a disagreeable pulsation at the pit of the stomach. He lived two years in this condition, still pursuing his avocations, when his sufferings were a little mitigated. Having attained the age of 29 years, he suddenly expired one day, while making some corporeal exertion, after eating rather heartily.

On dissection, the lungs were found healthy. The pericardium contained a few ounces of yellow serum. From the left ventricle of the heart there went off a pouch, the size of a man's fist, which was adherent to the pericardium. This tumour opened into the cavity of the ventricle, and contained coagulated blood. The parietes of the aneurismal production varied in thickness, from three quarters of an inch to an inch and a half. There was nothing else particular in the dissection.

3. This was a negro, who was received into La Charité, on the 17th October, 1796, in the agonies of death. He died the next day, after a most profuse nasal hæmorrhage. On dissection, it was observed that the heart was of its natural size; but, from the left ventricle, there went off a tumour, nearly as large as the heart itself. The parietes of this aneurismal tumour were of a cartilaginous consistence, although they preserved the appearance of muscle. The interior of the tumour presented several albuminous layers, of considerable density, exactly resembling those seen in an arterial aneurism, except that they were more pale. The cavity of the tumour communicated, by a rather small aperture, with that of the ventricle. The aneurism appeared evidently to be formed between the muscular substance of the heart and its pericardial covering. The mitral valve was thickened and ossified. This case was recorded in the second edition of Corvisart's work. Laennec never saw an instance of the disease, and only touches on the subject, placing the disease under the head of "Dilatations partielles du Cœur."

4. Two cases of this malady were observed by M. Berard, in the dissecting room of La Charité, and whose histories were, therefore, unknown. The second of these cases offered some remarkable phenomena. The man appeared to have been about 55 years of age, and the body was very fat. On opening the chest, the pericardium presented a most enormous size. The heart was prodigiously dilated, and, at the same time, thickened in its parietes. From the summit of the left ventricle there went off an aneurismal pouch, whose interior was covered with concentric layers of organized coagulable lymph, but not of very long standing apparently.

5. The case which we gave in No. 14 of this Series, page 401, as related by M. Cruveilhier, is next introduced by M. Breschet, and this we shall, of course, pass over.

6. The next instance came under M. Breschet's own observation. On the 27th of March, a soldier, aged 49 years, was received into the clinical ward, stating that he had suffered, for six or eight months, from oppression and want of breath, especially on using exercise. The limbs and belly were now infiltrated—he was unable to lie down in bed—the left ventricle of the heart communicated a considerable impulsion to the cylinder, and each contraction was attended with a whizzing noise, (bruit de soufflet) which was very distinct, but which, however, diminished afterwards, and finally disappeared. The pulse was small, and sometimes unequal. Diuretics, purgatives, &c. were employed, with the view of removing the consecutive dropsical swellings. On the night of the 18th May, the patient suddenly became insensible, and complete hemiplegia of the right side ensued. Bleeding, leeching, &c. were used, but the hemiplegia continued, although some degree of the intellectual functions was restored. He died on the 23d May.

Dissection.—There was serous effusion between the membranes, and in the ventricles of the brain. The right corpus striatum was of a livid colour, and completely softened almost into a fluid. This softening was exactly confined to the corpus striatum, and no other morbid appearance was seen in any part of the brain or cerebellum. The heart was nearly double its natural size, and, from the left ventricle, a small pouch went off, such as has been described. The great size of the heart was occasioned by the dilatation of the left ventricle, whose parietes, however, could hardly be said to be thickened. The tricuspid valve was in a state of induration approaching ossification. The interior of the pouch presented concentric layers of dense fibrine. The liver was granulated.

7. The case of Talma forms the next instance adduced by M. Breschet, but this has been already noticed in our own Journal.

General observations and conclusions.—Our author remarks that the word *aneurism* has given rise to numerous altercations, discussions, and erroneous deductions. By this term have been understood various and essentially different diseases of the heart and of the arteries. It is also remarkable, that we have admitted the existence of certain morbid condi-

tions of the heart which we have denied to the arteries, and *vice versa*. Thus, every one will allow that the chambers of the heart may become dilated, with or without *thickening*—with or without *attenuation* of their parietes; but it has been denied that there can be an aneurism of the heart produced by rupture of the fleshy parietes, and dilatation of its membranous envelopes. In respect to the arteries, it has been contended that there can be no such thing as a true aneurism—that is, a general dilatation of the whole cylinder of the vessel; but that, in all cases, there is a morbid condition of the inner and middle coats, with laceration of these tissues, and the formation of a tumour on one side of the vessel, in which is contained blood, or layer after layer of fibrine. Sennertus, Fab. Hildanus, and Scarpa, maintained this doctrine. But it is too exclusive. There can be no doubt that a diseased condition of the arterial coats, with partial laceration or dilatation of them into a pouch, is the more usual form of aneurism; but to deny that there can be a general dilatation of the caliber of the vessel, without laceration or disease of the coats, is an error. In 14 examinations of aneurismal tumours, Burns found but one in which the doctrine of Scarpa was impugned. Still this one exception in 14 cases proves that the rule is not exclusive. The present paper, and others which we have laid before our readers, evince that the heart is liable to the same kind of disease as the arteries—namely, partial attenuation, rupture, or dilatation of the parietes of some of its chambers, with the consequent formation of a pouch, containing coagulated blood, or layers of fibrine. Observation has proved, that these aneurismal pouches are almost always found to go off from the left ventricle of the heart. What can be the cause of this? M. Portal is of opinion that these pouches may form without any previous disease in the parietes of the chamber. He thinks the disease is more the consequence of violent contraction, than of dilatation of the chamber. There can be no doubt that these pouches are often seen where the rest of the parietes are in a state of hypertrophy; but M. Breschet is of opinion, and we agree with him, that, in all probability, there is an inequality of power in the different parts of the chamber, previously to the formation of these pouches. It is very curious, however, that aneurism by dilatation should be extremely common in the heart, and comparatively rare in the arteries; while, on the other hand, the aneurism by rupture or partial dilatation of the parietes is the usual form of the disease in the arteries, and comparatively rare in the heart. The reason for this difference is not very apparent. M. Breschet has attempted to lay down some symptoms as tending to show the existence of this disease; but we consider them as quite uncertain—if not absolutely erroneous. It rarely falls to the lot of a medical man to see a specimen of this curious disease; but the one which we published—that of General Kyd, was not accompanied by any of those symptoms which M. Breschet mentions—indeed the patient never exhibited any symptoms during life, which indicated organic affection of the heart at all. Still we hold it extremely desirable that we should be acquainted with all the forms of organic disease that may be presented to our view in the course of pathological investigations; and with this view we have presented our readers with a succinct account of our learned author's paper on the above subject. The final conclusions to which M. Breschet comes are the following:—

1mo. The heart is liable to be affected by a disease hitherto undescribed by nosographers or practitioners—2dly. That the disease is chiefly found affecting the left ventricle—3dly. That the *summit* of this ventricle is the principal seat of the disease—4thly. That the tumour is aneurismal.—5thly. That this aneurism, from the mode of its formation, the state of its parietes, and the parts contained in the cyst, may be considered analogous to the "false consecutive aneurism of arteries," in the sense employed by Scarpa—6thly. That the heart is liable to the same kind of aneurism which we commonly meet with in the arteries—a circumstance that might be reasonably expected, from their structure and functions.—*Repertoire.*

From the Medico-Chirurgical Review.

RHEUMATISM—SPINITIS.

M. de M. aged about 50 years, had enjoyed good health till his 48th year, with the exception of a gonorrhœa, followed by the stricture of the urethra. He had never been addicted to intemperance of any kind, though he was fond of good living and the enjoyments of convivial society. Eighteen months before the date of report, he became affected with an intermittent fever, which continued some months, in spite of every treatment, and then disappeared, leaving him rather debilitated.

A second time he was seized with intermittent fever, which resisted the usual means, and Dr. Potain was called in. The fever gave way to leeching the anus, and afterwards the administration of quinine and opium. At this time, he complained of the difficulty in making water, but did not take any remedial measures for that affection. In the summer of 1825, this gentleman was again attacked by the intermittent, which soon gave way to the measures above-mentioned. Two months afterwards, he was suddenly seized with extreme dysuria. Leeches to the perineum—warm baths—lavements—diluents. The dysuria persisted—a catheter was tried to be introduced, but in vain, as the urethra was too irritable. By the soothing means above described, some water was made to pass, and, after a few days, a consultation was had, and the catheter again tried, but the stricture could not be passed. He now repaired to Paris, and was under the care of Dubois and Segalas. The latter applied the caustic bougie,

and re-established the current of urine. The patient returned to St. Germain, (the place of his residence,) where he was soon afterwards seized with rheumatic pains in the upper part of his back, shoulders, and arms. These pains were disregarded for a week, but then became so acute, that he could bear them no longer. Dr. P. visited him, and found him suffering severely, but without any fever. Thirty leeches were applied to the shoulders, succeeded by emollient cataplasms. He was put upon milk and vegetable diet. No relief followed these measures. Two vapour-baths were taken daily for five days, and although they were followed by profuse perspiration, they produced no mitigation of the pains. Every afternoon there was an exasperation of these pains, attended with fever, and preceded by some chilliness. These phenomena led to the quinine and opium once more, but they failed to arrest the disease. Twenty-five leeches were then applied every day for five days, followed by cupping-glasses over the bites. After the third day, the pains ceased entirely in the arms and shoulders, and were considerably diminished in the spine and neck. It was now discovered that, with the exception of the fingers, the upper extremities were paralyzed. Two or three days after this, there was experienced some difficulty in walking, and Dr. P. fearing that the paralysis would become more general, applied a large blister to the spine, and demanded a consultation. The latter was held, and the physician called in, *openly, before the patient, blamed the measures that had been pursued,** and prescribed tonics and nourishing diet. Dr. P. objected to the former, but acquiesced in the latter. This new consultant attributed the gentleman's complaint to "*un vice vénérien*," although he had not been in the way of any poison of this kind for ten or fifteen years! M. Potain thought, on the contrary, that there was some inflammation about the spinal cord, and that, consequently, the patient's life was in jeopardy. This opinion was not at all participated by his colleague, and the patient determined to put his trust in the latter. M. P. therefore, withdrew. Six days afterwards, M. P. was summoned to meet in consultation, to which were added M. Segalas and M. Dupont. The patient was found incapable of moving himself in bed. The pulse was quick, but the skin was not hot—evacuations could only be procured by injections—and the urine, which contained puriform matters, was obliged to be drawn off by the catheter. In fact, the poor patient was in a state of almost complete paralysis. Messrs. Segalas and Dupont coincided with M. Potain in opinion, and the *liberal consultant* above-mentioned could only be envied, we think, by a man marching solemnly to the new drop. All the measures proposed were resolutely resisted by the *liberal* doctor, and, in 24 more hours, the scene closed.

Dissection.—At this disagreeable part of the business, the liberal did not attend. M. Dupont, however, was witness to the dissection. The spinal column was laid open throughout. From the fifth cervical to the eleventh dorsal vertebra, the membranes of the spinal canal were seen to be intensely inflamed, and covered with a sanguinolent effusion. The membranes were also thickened. The spinal marrow itself was similarly inflamed, and for a similar space. It was also softened in consistence. The time occupied by this tedious dissection prevented an examination of the other parts of the body, as the priests now broke in, and immediately removed the corpse.—*Revue Medicale.*

Remarks.—Two of the members of the Royal Academy of Medicine were ordered to report upon this curious and melancholy case, and the said reporters have learnedly discussed the question, whether the spinal inflammation was owing to the repeated attacks of intermittent fever, or to the rheumatism. They decided that it was to the latter, this phlogosis of the medulla spinalis and its membranes was to be attributed. For our own parts, we do not see any decided proof that either of these maladies was the primary cause of the fatal inflammation above-mentioned; but, of the two, we should be inclined to take the intermittent as the most probable cause. This is the opinion of the original writer of the case, M. Potain. We were not a little surprised to find that no notice was taken by the Academy of the flagrant violation of medical etiquette and common ethics, committed by the second consultant in this case. It was an essential and important part of their duty to animadvert, in the strongest terms of reprehension, on his conduct. Indeed, it is a great pity that there is not some honourable tribunal to appeal to on such occasions. If our colleges and corporate bodies looked to any thing but their own private interests, they would take especial cognizance of all breaches of medical decorum and propriety in the classes of medical society over which they preside—or pretend to preside. But this seems to be no concern of the diplomatic corps. A formal, and often an imperfect examination of the candidate, is all the *trouble* they take—the other part of the ceremony, the reception of the fee, is quite a *pleasure.* The press, however, will probably rouse them from their halcyon slumbers—and the rising gale of public opinion may, perchance, so shake the fig-trees under which they placidly repose, as to disturb their—

"Golden visions and romantic dreams."

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* It is hardly necessary to express our utter detestation of such a diabolical proceeding as the above. If the consulting physician was certain that the preceding measures were entirely wrong, or even detrimental, he had no right to allow his sentiments to become known in any manner to the patient or friends, unless the first practitioner obstinately refused to hearken to his suggestions.

From the Medico-Chirurgical Review.

PHYSIOLOGICAL AND PATHOLOGICAL RESULTS OF EXTIRPATION OF THE KIDNEYS.

By Professor Mayer, of Bonn.

Passing over the crude speculations of the ancients, respecting the functions of the kidneys, and the rôle which this function occupies in the animal economy—passing over, also, the instances in which these organs were found wanting in fœtuses and in monsters, we shall come at once to modern times, when experiments have been made with care, and their effects accurately noted.

When Richerand extirpated one kidney of an animal, no inconvenience appeared to ensue; but, when both kidneys were removed, a morbid condition obtained, and death took place in a very few days. In all Richerand's experiments, the gall-bladder was found gorged after death. The principal phenomena which succeeded the ablation of both kidneys, were:—Vomiting, tremours, smallness of pulse, urinous odour in the liquids vomited, borborigmi, intermissions of the pulse, coldness of the body—death in three days. On dissection, some effusion was found in the abdomen, but no inflammation—venous system gorged with blood—no alteration in the chest—slight effusion into the cerebral ventricles. In some cases, the animal died in a quarter of an hour after the extirpation, and nearly the same symptoms and *post-mortem* appearances presented themselves.

Prevost and Dumas made similar experiments, and they discovered the presence of urea in the blood, after renal ablation. M. Mayer made a number of experiments, of which he has detailed ten, in a late number of a French journal. We shall only give the results, and not the details.

1. The extirpation of both kidneys causes inevitable death of the animal, at various intervals.

2. The principal phenomena observed, were, tremours; crying, apparently from internal pains; and, finally, convulsions and death.

3. There were no well-marked symptoms of abdominal inflammation.

4. The operation is followed by the secretion, in various organs of the body, of a fluid, having all the physical characters of urine. This secretion takes place, particularly in the abdomen, chest, pericardium, ventricles of the brain, the eye, stomach, and intestinal canal. It even takes place in the cellular tissue of the liver, lungs, muscles, testicles, &c.

This urinous serum was submitted to chemical analysis, and our author's experience coincided with that of Prevost and Dumas, who also detected urea in the blood of animals, after ablation of the kidneys, corresponding with the fact, that men, whose kidneys have been affected with organic disease, have vomited up matters clearly of a urinous character. We cannot, then, says our author, deny, that a urinous liquid may be formed, under the above circumstances, in various other parts, besides the kidneys—but particularly in secreting structures.

Dr. Mayer thinks it probable that the cause of death, after these experiments, is owing to the irritation of the brain, from the urinous fluid thrown out there.—*Journal Complémentaire.*

From the London Medical Gazette.

CURIOUS TUMOUR OF THE HEAD.

Anne Chapman, æt. 55, was admitted November 6th under the care of Mr. Rose.

The patient came to the Hospital from some part of Essex, on account of a large and old bronchocele. On the right side of the head, towards the back part of the parietal bone, there was noticed a tumour of the scalp, about the size of a half-orange; it fluctuated, and yet it was scarcely so tense and elastic as fluid in a shut cavity commonly is. A puncture had been made into it by a gentleman in the country, three weeks previously, and a probe was now introduced into the opening, when some glairy serum issued, mixed with blood, but no pus. This was at two P. M. of the 6th. At one A. M. of the 7th, she was seized with a rigour, which lasted for two hours, and was succeeded by heat of skin, furred tongue, and nausea. The side of the head and tumour became sore, but without redness or swelling, and a lymphatic gland at the back of the neck enlarged, and was very painful.—*Cat. lini tumori h. salin. effervesc. 4tis horis.*

Vesp. Had another rigour in the afternoon. The skin is hot; and there is some headach and confusion. The abdomen is tender on pressure, and the countenance anxious. A quantity of bloody discharge escapes from the tumour, which is more painful.

8th. Has had a restless night, with slight shivering at times; headach; more pain in the tumour, which is swollen, with œdema of the cellular membrane around; countenance anxious; turns from side to side in bed; abdomen tender: no vomiting. A slight erysipelatous blush has appeared upon the bronchocele. Pulse 120, small and indistinct. She cannot be got to swallow any thing. Towards evening she sunk into a semi-comatose state. At four A. M. next morning she died.

Sectio cadaveris. This was performed at half past one P. M. of the same day.

The tumour was soft but still fluctuated. The skull-cap having been removed with the portion of scalp in which the tumour was situated attached to it, there was found to exist an opening in the bone, about the size of a half-crown piece, through which the external tumour communicated with the dura mater. This membrane was sound, rather injected at the part certainly, but not thickened or otherwise diseased. The scalp was then dissected off the tumour, which could be readily done, and an incision made longitudinally into it, disclosing its structure. It

was found to be made up of two or three small cysts, containing serum and coagulum, placed in the centre of a dark, putrid, ragged-looking mass, intermixed with small particles of bone, and in appearance not very unlike the broken-down contents of an aneurismal sac. The tumour passed down, contracted in size, through the opening in the cranium, and expanded below upon the dura mater, to which it adhered, though not very firmly. The brain beneath was perceptibly flattened, but not altered in structure. One appearance was worthy of remark. On the inside of the skull, around the margin of the aperture, there had been thrown up a ridge of new, and very vascular ossific matter forming a kind of *cordon sanitaire* around the disease. It bore an exact analogy to the adhesive process which we see set up around ulcers in soft parts, to confine the disorganization which is taking place. The bronchocele was limited to the right lobe of the gland, and in structure closely resembled that of the tumour in the head. No other particular appearances were observed.

It is to be regretted that no accurate history of this complaint was obtained from the patient prior to the occurrenee of the severe symptoms, when, of course, she was unable to give any. The case was so like encysted tumour of the scalp, that it had been determined on to make an incision into it in the course of a day or two. It is certainly curious, that so formidable a disease should have gone on for a length of time, as this must have done, without producing any very apparent constitutional disturbance. The woman came to the hospital, as was before stated, on account of the bronchocele, and on the house-surgeon noticing the state of the head, she replied, "Oh, sir, that is only a little tumour."

The origin of the morbid growth may admit of discussion; it evidently did not arise from the dura mater, for that was sound. Mr. Rose, Mr. Brodie, and indeed the majority, were of opinion, that it commenced in the diploe of the cranium. There is at present in the hospital another very interesting case of extensive disease of the parietal bone, which we shall take an early opportunity of detailing.—*St. George's Hospital.*

From the London Medical Gazette.

CASE OF DIFFUSED ANEURISM OF THE FEMORAL ARTERY, *in the middle of the Thigh, which was supposed to be an Abscess, and opened.*

A man, seventy-two years of age, was admitted under the care of Mr. Guthrie, on Monday, December 2d, labouring under hemorrhage, which, it was ascertained, arose from a rupture of the femoral artery, there being diffused aneurism of that vessel. In consultation with Mr. White, it was determined, for the reasons we shall afterwards state, to amputate the limb high up above the seat of the tumour. The operation was accordingly performed without delay. For some days the patient went on well, but we regret to state that he died a week after his admission.

Upon examination of the limb, the femoral artery was found to be much diseased at the ruptured part; it was also ulcerated above the opening; and would no doubt very soon have given way at other points. The coats of the vessel were thickened, and had a semi-cartilaginous feel. A considerable quantity of blood had escaped into the surrounding textures. At the part where the limb had been amputated, the size of the artery appeared rather enlarged; but its structure did not present any appearances of disease.

The following account was given by the surgeon who had attended him previous to his admission:—On the 8th November, he had been affected with anasarcous swelling of both legs, the urine being at the same time scanty and high coloured. Under appropriate treatment, the swelling of the extremities diminished; and a few days after he complained of stiffness and tightness about the ham and tendons of the sartorius and gracilis muscles. On the 15th, a slight swelling appeared on the inner and lower part of the thigh, and he complained of great restlessness. Fomentations were applied to the part, and anodynes prescribed. At first the swelling appeared so trifling, as to be taken for the remains of the œdematous affection, which had extended even to the groin. Next day the swelling was more diffused and more painful, particularly on pressure; leeches were applied with some relief. By the 19th, the swelling was still further enlarged; but no pulsation was detected by the surgeon. Is was looked upon as a common phlegmonous tumour, and fomentations and poultices were constantly applied. Under this treatment, the swelling continued to extend. The temperature of the limb was increased, and the patient had a rigour. On the 24th, the attending surgeon, finding the tumour increasing in size, and conceiving that matter had formed beneath the fascia, determined on making an opening into it next day, with the view of ascertaining its nature. We are informed also, that preparations were made to take up the artery if it should be found connected with the tumour. On the 25th, another surgeon saw the patient, and, with his concurrence, an opening was made with an abscess lancet into the centre of the tumour, where the fluctuation was most evident and superficial. The course of the femoral artery was avoided. On withdrawing the lancet, the blade was seen tinged with pus and dark grumous blood. About two ounces of sanious fluid, evidently streaked with matter, was discharged. It was thought necessary to enlarge the incision, and with the view of perfecting the suppurative process, poultices were again applied. For the first five days after the opening of the tumour, nothing but a thin serous discharge took place; but at this time coagula of blood began to escape when the limb was dressed or moved, and this continued at intervals for two or three days. The

case was now deemed alarming, and additional assistance was thought necessary. The patient was put into a coach for the purpose of being removed to the Westminster Hospital, and during this time very serious hemorrhage occurred, and in this state, as before mentioned, he was admitted.

Upon this interesting case Mr. Guthrie made some very important practical observations. After having examined the limb, and explained the nature of the disease to the students, he remarked, that, from the progress of the case and from the age of the patient, he was convinced that disease of the artery existed, and consequently that no operation upon the part where the opening had been made, could have been of any use. If no opening had been made into the swelling, he should have secured the femoral artery in the upper third of the thigh. But under the circumstances of the case, as they existed when he first saw the patient, this mode of practice would have been ineffectual and injudicious, from the danger of hemorrhage from the lower portion of the divided artery. A case had recently occurred in the hospital, where bleeding did take place from the inferior portion of the divided artery, and the patient died. In that instance, Mr. Guthrie had recommended amputation. In the present case also, the only chance that surgical assistance could offer the patient, was by amputating the limb above the aneurismal tumour, and, with the concurrence of Mr. White, the operation had been performed without loss of time. The state of the vessel at and above the part where the rupture had occurred, fully proved the accuracy of the opinion Mr. Guthrie had formed upon his first inspection of the patient.—*West. Hosp.*

From the Lancet.

INTERMITTING PARAPLEGIA, *combined with Amaurosis.* By JOHN ALEXANDER, M. D., Manchester.

The paper upon paraplegia, published in No. 215,* as having been read at a meeting of the London Medical Society, recalls to mind an uncommonly interesting case, of what may be termed *intermitting paraplegia, combined with amaurosis,* which presented itself in one of the clinical wards of the Edinburgh Royal Infirmary, about twelve months ago. I now send you, without further preface, an account of it, as reported in the journals of the hospital, and copied into my case book, together with a few remarks which its peculiarities naturally suggested.

"Dec. 1, 1826.—Jesse Gardiner, æt. 12, of a delicate appearance, admitted first of December, complains of a *loss of sight* in the left eye, unattended with any headach, or other cerebral symptom; pupil very much dilated, but sensibly contractile on the application of a lighted candle, or other strong stimulus to the eye. She has also no power over the lower extremities, being unable to move them, although they are equally warm and sensible to the touch, with any other part of the body. Tongue clean, appetite good, bowels regular. Pulse and heat natural."

The following excellent history of the case, along with the patient, was yesterday transmitted from Perth, by Mr. Cleland, surgeon, resident there.

"Jesse Gardiner has been occasionally under my care, since the autumn of 1822, for a variety of nervous ailments. When I first saw her, the disease exhibited the usual marks of chorea; and as she was rather a delicate looking girl, with weak digestion, tense abdomen, &c. I trusted to purgative treatment, and, for a short time, she appeared to have recovered. The year following, I found her worse than before; the fits were more alarming, and more irregular, both in form and duration. Sometimes they assumed the *appearance of epilepsy*, with total insensibility during the attack, and sleep afterwards, but the face was rarely much distorted; at other times the muscles were quite rigid, and not unfrequently, as if seized with a sort of phrensy, she would *rush out of the house, and run until quite exhausted.* Her eyes became affected; sometimes she appeared to have perfect amaurosis of one eye, sometimes of both, when the pupils are dilated, and hardly moveable on the approach of a brilliant light. Moderate bleeding, either by the arm or leeches, seemed of little use; purgatives were still useful, but less immediately so than at first. In the summer of 1824, a trial was made of Fowler's solution, which proved of no advantage. In the spring following, as there seemed (from headach and suffusion of the conjunctiva) to be considerable determination of blood to the head, a weak solution of tartarised antimony (as a substitute for James's powder, as recommended by Dr. Cheyne) was given, and with considerable temporary relief. I had not seen her for several months, when, in October last, I found her complaining of *inconstant or intermitting paralysis of the legs*, and exceedingly distressed by the frequency of the fits, which assumed now very much the appearance of common fainting. They occurred almost daily, and were generally followed by some obvious change in the other symptoms. Sometimes, after their going off, she was found *completely amaurotic;* at other times, when *amaurotic at the commencement of the attack*, she would after *its termination have recovered her vision;* the same was frequently the *case, with respect to the paralytic affection of the limbs.* Recourse was had again to purgatives, generally croton oil, but to little or no purpose; and, latterly, she has taken thrice a day half a grain of the nitrate of silver in a compound rhubarb pill, seemingly with the effect of lessening, in some degree, the frequency of the fits."

Dr. Duncan, (whose medical acumen, extensive information, and urbanity, are too well known to require the humble tribute of my pen,) desirous to witness some of the pheno-

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* Vide Journal of Foreign Medicine for February.

mena of this anomalous complaint, and from the conclusions thence arising, to be directed in his treatment; ordered, in the first place, as a placebo, the friction of a little ointment upon the neck. The day following, we have this report: "Soon after the visit of yesterday, she (Jesse Gardiner) perceived a sensation *indicating the return of power in her limbs*, and, in a moment afterwards, she recovered the power of walking and seeing, which have since remained. Bowels confined." Aloetic pills were administered to remove the constipation, and a pill of the ammoniate of copper directed to be given every night and morning. Suffice it to say, that the latter medicine was continued until the 15th, when she left the hospital, having had no return of those disorders which had troubled her for so many years.

It has long been a disputed point amongst physiologists, whether the iris contracts from sympathy with the retina, or from the impressions made directly upon itself—from the knowledge of its being supplied by different nerves—from the fact of its contracting in the most complete forms of cataract, (when the diameter of the opaque lens has been greater than that of the pupil fully distended,) I had been inclined to think its contraction independent of the retina. This case of Jesse Gardiner's confirmed what had hitherto been matter of opinion, founded upon abstract reasoning alone. When I applied a lighted taper near the eye, the pupil, from the size or diameter of two-thirds of a sixpence, contracted immediately to the size of a small garden pea. Now, I presume, this could not have happened, provided the action of the iris were not independent of the retina. It may be asked, when you applied the light, was the amaurosis so complete, as to preclude her seeing the taper? It was so, although I freely confess, she had an indistinct perception of something more than usual before the eye; but this perception *was so exceedingly slight*, as not to account, in any satisfactory degree, for the *natural* contraction of the iris, and therefore (in my humble opinion) does not invalidate the argument.

The paraplegia, in this case, was of a very unusual character; it generally produced not merely a loss of motion and diminution of temperature, but of sensibility, with considerable flaccidity and wasting of the muscles of the affected part; no such effects presented themselves in the present anomalous case. I would next remark, that the nerves supplying the voluntary muscles seem to have been those primarily affected; for we are told by Mr. Cleland, that the fits had first the character of chorea, and afterwards of epilepsy, the amaurosis and paraplegia having supervened only twelve months previous to her admission into the hospital; what I would wish to observe on this point is, that perhaps no complaints predispose more, or oftener produce fatuity of intellect, than those of chorea and epilepsy; therefore, it was not a little remarkable, that the intellectual faculties of this girl were left so completely unimpaired, with a four years' illness, characterized by those diseases.

The next feature in this case, is one of great interest to the student of physiology; I allude to the *occasional phrensy inducing her to run out of the house, and proceed until exhausted.* On reference, I find that, from the experiments and observations of Magendie, Rolando of Turin, Fleurens, and Dr. Laurent of Versailles, it is now a pretty well established fact, that certain parts of the brain are destined to urge progressive motion, as well as others to preside over the lateral and rotatary motions of the body. On the integrity of these several parts, and the proper equilibrium being preserved, depends their regularity of function. Magendie found, that an injury of the corpora striata produced the phenomenon present in this girl, viz. the disposition to run forwards; and relates, (what is extremely interesting,) that when the rabbits (his subjects of experiment) had run until they could run no further, they still preserved *the attitude of progression.* M. Rolando regards the cerebellum as the source whence muscular contraction emanates; this able physiologist removed the cerebellum from the crania of several mammalia and birds, and observed that the movements diminished in the ratio of the quantity of substance extracted; this, however, is very objectionable "instantia crucis." Fleurens regards the cerebellum as the *regulator or balance* of animal motion. Lesions of the cerebella of animals have produced an irresistible disposition in those animals to retrograde motion, as instanced by Magendie's well known experiments on the water dog, pigeons, &c.; and Dr. Laurent relates a case of a girl, who, during nervous attacks, is forced to retrograde motion. Allowing to the preceding evidence its due weight, we can easily perceive how an excited condition, (from what cause it matters not,) or a diseased state of particular portions of the brain, may induce the phenomenon Jesse Gardiner presented.

Now, that the syncope could at one time induce, or seem to excite, the amaurosis and paraplegia, whilst, at other times, it was the cause of their intermission, appears rather paradoxical; at all events, any attempts upon my part to explain the circumstance shall be dispensed with, as I conceive it more consistent with the spirit of true philosophy, to admit the existence of causes beyond our comprehension, than to found an argument upon hypotheses, which only demonstrate how repugnant these inexplicable phenomena are to the human mind.

From the Lancet.

ON THE MODUS OPERANDI OF ALOES, AND ITS MEDICAL PROPERTIES. By Dr. Wedekind.

It is well ascertained that the purgative effect of aloes does not take place till eight and sometimes twelve hours after its exhibition. Individuals in whom the secretion of bile is increased with the greatest facility, are those

most powerfully acted upon by aloes. An excitement of the whole system, with quickness of the pulse, disagreeable heat of the abdomen, dryness of the mouth, succeeds the administration of this remedy. These effects are increased when the medicine is continued during several days, and if exhibited in very strong doses, it sometimes gives rise to serious hæmorrhage.

From experiments made on persons in health, and observations on persons in sickness, it has been found that a purgative which acts speedily, as, for instance, a mixture composed of a laxative infusion and sulphate of soda given at one time, with two or four grains of aloes, does not act differently than if exhibited alone. But aloes given two hours before the mixture, does not commence to operate till the effect of the latter has ceased; and the evacuations in second purging differ from those in the first, as well in appearance as in smell. If, on the contrary, the aloes be given from six to eight hours before the mixture, the effects of the two remedies coincide, and the evacuations are generally very copious.

If the stools produced by the aloes are not watery, but bilious, fæculent, and have a specific smell, it is not owing to a special action on the large intestines, as authors have generally stated. The author of this paper had several opportunities of trying this remedy in icterus; and as long as the stools were white or gray, aloes did not purge even when exhibited in large doses; but the purgative effect immediately supervened, as soon as the fæcal matter commenced to contain bile, a proof that the presence of bile in the intestinal canal is a necessary condition of the purgative effect of the aloes. If the aloes were given in too large doses, a bilious diarrhœa generally followed.

It is, then, useless to give aloes with neutral salts, and other salts which act promptly, unless it is desired to promote the secretion of bile; and under such circumstances, the aloes should be given some hours before the other medicine. The pancreatic and hepatic secretions will be still more increased by the addition of calomel.

It appears, then, that the primitive effect of the aloes is on the liver, that this organ is excited by it as the salivary glands are by mercury, or the kidneys by cantharides; that its purgative effect does not depend, as that of many other cathartics, on an increased secretion from the intestinal canal, and an immediate excitement of the muscular fibres of the intestine; but the aloes is first absorbed, then carried into the circulation, and afterwards secreted by the liver, the action of which it increases.

Dr. Wedekind thinks, that the use of aloes is principally indicated when the secretion of bile is scanty, in constipation, from atony of the colon and rectum, and in icterus, which may be attributed to atony of the liver. This medicine should be employed with much caution in irritable persons. In cases of icterus, attended with a spasmodic or inflammatory state of the liver, obstructions of the liver with dropsy, as well as in persons affected with biliary calculi, and those disposed to hæmorrhoids, its use is decidedly improper.

From the Medico-Chirurgical Review.

REPORTS OF MEDICAL CASES, *selected with the View of illustrating the Symptoms and Cure of Diseases, by a Reference to Morbid Anatomy.* By Richard Bright, M. D. F. R. S. &c. Lecturer on the Practice of Medicine, and one of the Physicians to Guy's Hospital.

This is, beyond all comparison, the most splendid production which this country has ever given rise to, in regard to morbid anatomy. The plates of Baillie, Farre, Hooper, Willan, Bateman, &c. &c. shrink into comparative insignificance, as to accuracy of delineation and beauty of execution, when placed along side of those now before us. The task which Dr. Bright has imposed on himself (for this is only the first of a series of volumes,) is truly Herculean, both as respects the labour and the expense. The undertaking is national; for if the author continues "equis passibus," he will not only immortalize himself, but reflect honour on his country—and especially on his own profession. From our government we cannot—or, at all events, we need not expect that any reward, honorary or pecuniary, will flow for such meritorious works as this of Dr. Bright; but we do think that if the *learned heads* of departments in our profession obeyed the dictates of *zealous hearts*, they would hold out encouragement for enterprises like this, by conferring some mark of disinction on those who accomplish them. As the production of a physician, our Royal College, we think, should testify its approbation of such a work, even although emanating from an unfortunate licentiate! It certainly would seem better in the eyes of foreigners to expend a few pounds annually in such a way, than in litigations with the graduates of Scotch universities. We fear, however, that Dr. Bright has little to hope from any other patronage than that of the *public*—a patronage not yet totally swallowed up by the insatiable stomachs of medical monopolists!*

Our author modestly states it as his wish to render, through this publication, the labours of an hospital more permanently useful, by bringing together such facts as seem to throw light upon each other—and, also, to preserve and explain, by faithful engravings, the re-

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* We think that every opulent individual, and every medical society, should make a point of subscribing to Dr. Bright's book, as the proper way to lend their separate and collective aid in rewarding merit, and promoting the publication of valuable works. There will still be a large class who must take the matter at second hand.

cent appearances of those morbid changes of structure which have been connected with the symptoms, or have influenced the treatment of the disease.* He considers it unnecessary, in the present day, to expatiate on the utility of hospital reports, or "the importance of that information which our profession derives from the study of morbid anatomy." Dr. Bright must know, however, that it is not many months since discredit was attempted to be thrown on pathology from "high authority," as it has been called—probably, in reference to the geographical position or *altitude* of the theatre where the *sublime* dogmas were delivered. But we must proceed to the work.

This first volume is divided into several sections, the chief of these exhibiting a collection of cases, with appropriate drawings, of the appearances observable in diseases terminating in dropsical effusion:—*first*, of the appearances in the kidney—*secondly*, of those in the liver—and, *thirdly*, of those in the thoracic viscera. There are some other sections on the effects of inflammation in different textures of the lungs—on phthisis pulmonalis—on jaundice—on dysentery—on fever. All these sections we shall notice seriatim, in this and succeeding numbers of our Journal.

1. *On the Appearances observable in Diseases terminating in Dropsical Effusion.*—These are exceedingly numerous as well as various—and it is often difficult to say how far these changes of structure are the causes, the auxiliaries, or merely the consequences, of the effusion. One great cause is, unquestionably, obstructed circulation, especially in the venous system. Thus, whatever either generally or locally checks the return of blood through that system, as diseases of the heart, the liver, or the lungs, has a strong tendency to produce serous effusion, either in the cavities or in the cellular tissues. But there are many other diseases besides these more obvious ones of the three great organs alluded to, which give rise to dropsy. Certain affections of the peritoneum, as tuberculation, false membranes, &c. give the tendency to effusion, and leave open a considerable field for the investigations of the pathologist.

Dr. Bright, however, has particularly directed his attention to a class of organic changes which have hitherto attracted too little attention—namely, morbid changes in the kidney, which, "whether they are to be considered as the cause of the dropsical effusion, or as the consequence of some other disease, cannot be unimportant." In these conditions of the kidney, Dr. B. has often found the dropsy connected with the secretion of albuminous urine, more or less coagulable by heat. In such cases, the liver did not betray *any considerable* marks of disease, either in its function during life, or structure after death. On the other hand, where the dropsy has clearly depended on organic disease of the liver, there was generally no morbid alteration in the kidney—no coagulable urine. *Dr. B. avers that he has never found the kidneys free from disease in the bodies of those who have died of dropsy, attended with coagulable urine.* Whether this morbid structure, in its incipient state, may be considered as giving rise to the altered secretion—or whether it be owing to the long-continued disorder of the renal function, may admit of some doubt. Dr. B. is of opinion that the altered action of the kidney is the result of various hurtful causes operating through the medium of the stomach and skin, thus deranging the healthy balance of the circulation, or inducing an inflammatory state of the kidney itself—and that a long continuance of this disturbed function leads to permanent change of structure. This, we think, is the more probable solution; and it is, in fact, in accordance with what we see in other organs of the body, as well as in the kidney. Dr. Bright's observations on the condition of the urine in dropsy coincide, in a great degree, with those of Dr. Blackall. We must observe, however, that Dr. Blackall's conclusions have not been borne out by the experiments of others—and especially by those of Dr. Crampton of Dublin, as seen in the Dublin Hospital Reports.

"Where anasarca has come on from exposure to cold, or from some accidental excess, I have in general found the urine to be coagulable by heat. The coagulation is in different degrees: it likewise differs somewhat in its character: most commonly when the urine has been exposed to the heat of a candle in a spoon, before it rises quite to the boiling point it becomes clouded, sometimes simply opalescent, at other times almost milky, beginning at the edges of the spoon and quickly meeting in the middle. In a short time the coagulating particles break up into a flocculent or a curdled form, and the quantity of this flocculent matter varies from a quantity scarcely perceptible floating in the fluid, to so much as converts the whole into the appearance of curdled milk. Sometimes it rises to the surface in the form of a fine scum, which still remains after the boiled fluid has completely cooled. There is another form of coagulable urine, which in my experience has been much more rare; when the urine on being exposed to heat assumes a gelatinous appearance, as if

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* In passing a high encomium on Dr. Bright's plates, we do not mean to say that they are faultless, or that they are equally meritorious. Those representing diseases of the kidney we consider as the best—and those of the lungs the worst. We think it quite impossible that any portion of lung in phthisis pulmonalis could *faithfully* present all the most brilliant colours of the rainbow, as seen in plates IX. and X. The same observation would possibly apply to some plates of morbid conditions of the intestines. The second figure in plate XII. we cannot but think is meretriciously set forth, and as—"flounting in rags, or fluttering in brocade." The principal, perhaps the whole failing in these beautiful plates, is their *excess of beauty*.

a certain quantity of isinglass had been dissolved in water. I have indeed met with this in one or two cases only." 3.

In the progress of these anasarcous cases, Dr. B. has generally found a strong tendency to throw of the red particles of the blood by the kidneys, in the form of hæmaturia, varying from the simple dingy colour of the urine, with slight brown deposit, to complete bloody urine, with, occasionally, a thick ropy deposition at the bottom of the pot.

"Besides these cases of sudden anasarcous swelling being generally accompanied by coagulable urine, I have found another and apparently a very opposite state of the system prone to a secretion of the same character; namely, in persons who have been long the subjects of anasarca recurring again and again, worn out and cachectic in their whole frame and appearance, and usually persons addicted to an irregular life and to the use of spirituous liquors. In these cases the albuminous matter has coagulated, in the more ordinary way, in flakes and little curdled clots; but, instead of rendering the whole milky, the flocculi often incline to a brown colour, looking like the finest particles of bran, more or less thickly disseminated throughout the heated urine. Occasionally in these cases the urine has been much loaded with saline ingredients becoming turbid by standing, but rendered quite clear by the application of a much lower degree of heat, than is necessary to coagulate the albumen.

"In all the cases in which I have observed the albuminous urine, it has appeared to me that the kidney has itself acted a more important part, and has been more deranged, both functionally and organically, than has generally been imagined. In the latter class of cases I have always found the kidney decidedly disorganized. In the former, when very recent, I have found the kidney gorged with blood. And in mixed cases, where the attack was recent, although apparently the foundation has been laid for it in a course of intemperance, I have found the kidney likewise disorganized." 4.

Dr. Bright now proceeds to the detail of cases, some of which we shall introduce, under a very abridged form.

Case 1.—A sailor, aged 34, who, like most sailors, had made free with the grog-bottle, entered Guy's Hospital on the 12th October, 1825. He stated that, for the four last years, he had left the sea, and with it the habit of ingurgitation. He was of a pale, unhealthy aspect. Three weeks before admission, he was seized with pains in his loins, knees and ankles —his legs swelled, and his hands and face were occasionally œdematous. His abdomen, on admission, was painful on pressure—pulse 78—tongue pale—fæces light coloured—urine scanty, a pint in the 24 hours—appetite good. A pill, containing mercury, squill, and opium, was administered every night, and, during the next five days, he improved, in respect to the urinary secretion; but the œdema was little reduced, and he could not lie easy in bed without being highly propped up. On the 20th of the same month, he was attacked with general inflammatory symptoms in the thorax and abdomen, for which he was bled—had fomentations applied—and took effervescing draughts, with ipecacuan wine. The blood was inflamed. The symptoms returned the next evening, with herpes labialis on the face —and some blood had passed in his motions. The urine, however, was more in quantity, and less sedimentous. On the 25th, the urine was much more free, and it had assumed the dingy brown colour, marking an admixture of red particles of blood. He continued to improve, but complained of *pain and weakness in his loins.* He lies down easily, but his legs continue to swell—tenderness of abdomen gone—urine in good quantity, and clear, but *coagulates by heat.* 27th. Gums sore from mercury. By the 2d Nov. he was so much improved as to be able to walk about the ward, and was only taking a grain of ipecacuan thrice a day for his bowels. On the evening of the 10th Nov. Mr. Stocker was suddenly called to him for an attack of dyspnœa, with symptoms of thoracic inflammation. *Venesect. ad* ℥x.—*blister.* He was somewhat relieved—the blood was inflamed—but he was quite unable to lie down. The urine again became scanty—and the dyspnœa was increasing. *Squill pill and mercury—venesectio—another blister.* We deem it unnecessary to pursue the diurnal details. The symptoms of thoracic and anasarcous effusion increased, together with the dyspnœa, emaciation, and general prostration. He died on the 29th November.*

Dissection. The pericardium contained about four ounces of clear water, which soon became gelatinous. Both portions of pericardium showed strong marks of inflammation, in the shape of fibrinous deposits, some of recent formation, others of longer standing. The heart was large and firm. The semilunar valves of the aorta showed ossification. The left lung was every where adherent, and every where converted into "*gray hepatization,*" very few portions admitting air. "The right lung was soft, and in structure not unnatural, but œdematous; filled by the effusion of se-

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* We see no mention made of auscultation or percussion till the day of this man's death, when the right side of the chest was found to be more sonorous than the left; and, by the assistance of the stethoscope, Dr. B. thought he could hear the heart beat through a fluid. In all cases where thoracic affections are present, the stethoscope should be employed, for we can assure those who cultivate that instrument, that it will require years of study and practice, to make themselves even imperfectly acquainted with the indications which it points out. The dissection of the above case will show that auscultation, properly employed, would have detected irremediable organic disease in the chest *for months* before the man died.

rum, so that the fluid ran out, mixed with innumerable fine bubbles of air, immediately it was cut into. The whole cavity of the chest, on this side, was filled with serum, but the lung not compressed by it." There was some serous effusion in the abdomen. The peritoneal coat of the liver was coated with a fibrinous deposit, not very recent. No obvious disease in the size or structure of this organ, except that it was "rather pale coloured, of a purplish drab throughout, and not of firm consistence." The kidneys were completely granulated throughout, as seen in plate I. with rough external surface, while all traces of natural organization were gone from within, except in the tubular parts, which were of a lighter and more pinky colour than natural.

Remarks. Dr. B. thinks that, if we can form any judgment as to the comparative priority of diseased structure in this patient, we should be inclined to give that priority to the disease in the kidney, which "had probably laid the foundation for that effusion into the cellular membrane, which had taken place previously to his admission." Dr. B. observes that there was no evidence whatever of organic disease in the liver, anterior to the patient's reception into the hospital—and that it is not at all improbable, that "the greater part of the mischief done to the substance of the left lung, had taken place between the 20th October, when he suffered the severe inflammatory attack, and the 29th November, when he died." The serous effusion was, no doubt, a recent affection.

We are aware that Dr. Bright has the authority of Laennec for the sudden formation of hepatization in the lungs—even the *gray hepatization*, which is the third degree of that disease. With all due deference to M. Laennec, we conceive that, on this point, he may be mistaken. But, granting that hepatization of the lung may take place, say in ten or twenty days, from peripneumony, every pathologist knows that this same hepatization may continue for months or years, without affecting life. And, when we contemplate the state of the above patient when he first came into the hospital, we can have little doubt that hepatization of the lung existed there, and for a very long time before. It is not, therefore, very easy to say, with certainty, that the disorganization of the kidney preceded the hepatization of the lung—and it is still more problematical, that the kidney affection was the cause of the dropsical effusion in the chest. There can be no doubt, however, that the thoracic effusion, especially the inflammation and affection about the heart, was the immediate cause of the fatal termination.

Case 2.—Eliz. Beaver, aged 37, was admitted on the 23d Nov. 1825, with swelling and fluctuation of the abdomen, attended, also, with tympanitis. The lower extremities, and the parietes of the abdomen were œdematous, with erythema about the ankles. Her face and arms had also swelled occasionally. Severe cough was excited by a deep inspiration, causing, also, some abdominal pain. Her breathing was short—inability to lie horizontally—bad sleep—pulse 112—tongue furred in the middle, and clean at the sides—bowels relaxed—urine clear, but uncertain in quantity. She had been ill about six months, her illness commencing with pain in the chest and increase of cough, to which last she had been subject for four or five years. The catamenia had stopped five months previously. On account of the diarrhœa, confectio opii, and hyd. cum creta, were ordered thrice a day, with some other cordial medicines. 24th. Much the same. On the 25th, the urine was examined, and found to *coagulate by heat.* It was scanty in quantity. She gradually got weaker, and died on the 29th of the same month.

Dissection. There was some effusion into both sides of the chest—body generally anasarcous—lungs tolerably healthy—heart small in size, and feeble in texture, the parietes of the right ventricle being in a state of atrophy—an ounce and a half of water in the pericardium. There was much straw-coloured fluid in the abdomen. The liver, externally, appeared granulated, but this appearance was very much confined to the surface. The kidneys were both of unusual size, and, on external view, they were obviously granulated with yellow matters. The whole of the cortical structure appeared converted into a yellow substance, resembling fat. There was nothing else particular in the dissection.

Remarks. Dr. B. thinks we may attribute the dropsy with coagulable urine, in this case, to the disorganization in the kidneys. He seems to doubt whether the state of the heart and liver had any thing to do with the dropsical effusions. There will be some who may doubt this exclusive blame on the kidneys.

In the following cases we shall be more brief in our analysis.

Care 3.—A female, aged 25, of previous intemperate habits, was admitted Nov. 8th, with anasarcous swelling of the legs, diarrhœa, cough, dyspnœa, bloated and lived face. *The urine was found to coagulate very considerably by heat.* She died on the 12th of January following, after an unsuccessful exhibition of various remedies.

Dissection. Nearly two pints of turbid serum in the left side of the chest—lung of that side œdematous and rather fleshy at the summit, with some incipient tuberculation. In the *right* side, there was, also, considerable effusion, and the lung was very much condensed, so that but a small portion admitted air. A thick adventitious membrane surrounded the greater part of it, and it was firmly glued to the pleura. The apex of the right lung was completely tuberculated, with some excavations. The liver was pale, yellowish, rather firm, and inclined to granulation. Ulcerations near the valve of the colon, in the ileum. The kidneys were entirely disorganized. The whole of the cortical substance was of a uniform yellow colour. This state of kidney is beautifully delineated in the second plate.

Case 4.—A bricklayer, not of intemperate habits, was admitted on the 22d November. Two months previously, having heated himself much in working, he drank cold beer and lay down on the damp grass. His legs began to swell in a day or two afterwards. At the time of admission, he was generally anasarcous, and his legs were greatly swollen, with symptoms of effusion into the cavities. His breathing was much oppressed. Squill pill and mercury, with some other diuretics, were given, with temporary improvement only. His urine was scanty, and *coagulated by heat*. On the 12th December, a diarrhœa, with erysipelas of one leg, came on, and he died on the 16th of the same month.

Dissection.—Three pints of clear yellow serum in the *right* side of the chest—lung on that side slightly puckered and hardened at the apex. In the *left* side, there was about a pint and a half of serum—left lung healthy. In the right lobe of the liver there was a small collection of tubercular bodies, and a similar collection in the small lobe. "The whole substance of the liver was nearly in a healthy state—a little inclined to be granulated." The cortical structure of the kidneys exhibited the commencement of granulation. They were rather large and soft—general colour pale, and, on stripping off their tunic, the whole surface was seen speckled with minute yellow bodies, which bodies were found pervading the whole cortical substance. These kidneys are delineated in plate the third.

Dr. Bright anticipated this state of kindney before death, and committed the diagnosis to writing.

Case 5.—A stout looking sailor, aged 34, was admitted on the 29th November. Denied having been intemperate, only taking a good deal of spirits and water. Three years previously, he caught a bad cold, and has never been well since. Five months ago, he began to swell, and his legs and thighs are now decidedly œdematous. The urine is scanty, and *coagulates into a complete gelatinous mass by heat*. Mercury and squills were given, and the urine increased, becoming less coagulable. On the 22d December, dysenteric symptoms came on, and lasted a few days. On the 12th February, we find the urine very scanty, and strongly coagulable. He was evidently declining fast; and now, for the first time, it is stated that "his cough is more troublesome, the expectoration puriform, and, for some days, there have been symptoms of inflammatory affection in the chest." He died on the 14th February.

Dissection.—Œdema of the lower extremities—considerable effusion into the left cavity of the chest—with flakes of coagulable lymph and other products of inflammation. The lung more firm and red than natural. Nothing wrong in the other side of the chest—heart rather flaccid—liver pale, "inclined to granulation in its appearance, but not enlarged, nor materially firmer than natural." Unequivocal evidences of peritoneal inflammation were observable, with considerable effusion. The kidneys were large—very dark on their upper surface, and mottled with yellow on their under surface. Internally, the structure had changed to a fatty substance, with some traces of granulation.

The foregoing half dozen of cases out of 25 put on record by Dr. Bright, will be sufficient specimens for this analysis; and we shall, therefore, proceed to give some account of our author's "general observations" appended to the narrative of facts.

From the facts which have come under Dr. B.'s notice, he thinks he is authorized to establish three varieties, if not three completely separate forms, of diseased structure in the kidneys—generally attended by a decidedly albuminous character in the urine.

"In the *first*, a state of degeneracy seems to exist, which from its appearance might be regarded as marking little more than simple debility of the organ. In this case the kidney loses its usual firmness, becomes of a yellow mottled appearance externally; and when a section is made, nearly the same yellow colour slightly tinged with gray is seen to pervade the whole of the cortical part, and the tubular portions are of a lighter colour than natural. The size of the kidney is not materially altered, nor is there any obvious morbid deposit to be discovered. (Plate II. Fig. 4.) This state of the organ is sometimes connected with a cachectic condition of body, attended with chronic disease, where no dropsical effusion has taken place either into the cellular membrane or into the cavities of the body; I have found it in a case of diarrhœa and phthisis, and in a case of ovarian tumour. In the former it was connected with slight and almost doubtful coagulation of the urine by heat; in the latter I had omitted to examine the state of the urine. I also met with nearly the same condition of the kidney, with some opaque yellow deposits interspersed through the structure, in the case of a man who died exhausted with diarrhœa brought on by hardships and intemperance, and in whose case the secretion of urine was very deficient, but whether coagulable or not I had no opportunity of ascertaining. When this disease has gone to its utmost, it has appeared to terminate by producing a more decided alteration in the structure; some portions becoming consolidated, so as to admit of very partial circulation; in which state the surface has assumed a somewhat tuberculated appearance, the gentle projections of which were paler than the rest, and scarcely received any of the injection which was thrown in by the arteries. (Plate II. Fig. 1. 2. and 3.) In this more advanced stage, if it be the same disease, dropsy has existed, and the urine has been coagulable." 67.

The *second* form, is that in which the whole cortical part is converted into a granulated texture, and where there appears to be a copious morbid interstitial deposit of an opaque white substance. In the early stage, when the tunic is taken off, there is exhibited only an increase of the natural fine mottled appearance given by the healthy structure of the kidney. On slitting the organ longitudinally,

a slight appearance of the same kind is discovered internally, and the kidney is deficient in its natural firmness. In time, the deposited matter becomes more abundant, and is seen in numerous specks of no definite form, thickly strewed on the surface. Internally, these specks are found distributed in a more or less regular manner throughout the whole cortical substance, no longer presenting a doubtful appearance, but manifest to the eye without any preparation. At a still more advanced period, the granulated texture begins to show itself externally, in slight uneven projections on the surface of the kidney, very apparent through the tunic. The organ is generally larger than natural, sometimes not at all increased in size.

"The *third* form of disease, is where the kidney is quite rough and scabrous to the touch externally, and is seen to rise in numerous projections not much exceeding a large pin's head, yellow, red, and purplish. The form of the kidney is often inclined to be lobulated, the feel is hard, and on making an incision the texture is found approaching to semicartilaginous firmness, giving great resistance to the knife. The tubular portions are observed to be drawn near to the surface of the kidney: it appears in short like a contraction of every part of the organ, with less interstitial deposit than in the last variety. This form of disease existed in a case from which I had a drawing executed about three years ago, it also existed in Bonham, (p. 22); and a most decidedly marked instance of it may be found in Stewart, (Plate III. Fig. 1 and 2,) where however the kidney was of a lighter colour than in the other cases, which were more of a purplish gray tinge. I believe the case of Smith, (p. 23,) belonged to the same. In most of these cases the urine has been highly coagulable by heat, at times forming a large curdled deposit, though in one case (Castles) where an approach to this appearance was found on the outside of the kidney, but with marked structural change in the liver, and with confirmed bronchial congestion, only a dense bran-like deposit of a brown colour was produced by the application of heat." 69.

Although Dr. B. hazards a conjecture as to the existence of these three different forms, he is by no means confident as to the correctness of this view. So much for the descriptive part. We now come to—

Observations on the Treatment.—It has been our author's object, in all that precedes, to prove that certain dropsical affections depend more on derangement of the kidneys themselves, than has generally been supposed—and that the particular cases in which these organs are the seat of disease, are pointed out by the albuminous nature of the urine. The author wishes he could add any thing very satisfactory as to the treatment. But he is inclined to doubt whether it be possible to effect a cure, or even afford much relief after the decided organic change has taken a firm hold on the kidney. In sudden attacks of anasarca from intemperance and exposure, in the early stage, and before organic changes have taken place, we have *first* to restore the healthy action of the kidney—and, *secondly*, to guard against those dangerous secondary consequences which may destroy the patient at any period of the disease. Inflammatory affections, especially of the serous membranes, and serous or sanguineous effusions on the brain, are the two principal sources of danger. Thus, out of seventeen dissections, they found ten or eleven betraying pleural inflammation, ancient or recent—five of pericardial phlogosis, (three recent, two old,) and only one where peritoneal inflammation was well marked. In respect to cerebral affections supervening on renal disease, the cases recorded by our author present both apoplexy and epilepsy. The treatment must, therefore, bear on the prevention of these impending dangers, and active depletion, in the early stages, is indispensably necessary. When symptoms indicative of the presence of these inflammatory affections appear, there can no longer be a doubt as to the free abstraction of blood. Practitioners should bear in mind that, in these complaints, the thoracic inflammations are extremely insidious, and are often masked by the hydropic phenomena. "And we are led to ascribe many of the symptoms—such as the slight cough, the dyspnœa, and the difficulty of lying down—to effusion rather than inflammation." We are sorry to hear such observations from Dr. Bright, at a period when effusion in the chest may be very readily distinguished from inflammation of the lungs or pleura, by even tyros in auscultation.

When the inflammatory attack comes on early in the disease, it is often overcome by free depletion; but in the more advanced stages, the patient bears depletion so ill as to check the depletory measures. But bleeding is also an important remedy for the restoration of healthy action in the kidneys themselves. The foundation of future disorganization is probably laid in a previous state of slow inflammation or congestion. General blood-letting was useful in many cases—in others, local depletion from the loins had a better effect.

Purgatives, especially the saline laxatives combining diuretic powers, are decidedly beneficial. The supertartrate of potash was found very useful in our author's hands. He gave it in a fully saturated solution—a large draught early in the morning. The next diuretic which Dr. B. has been in the habit of employing, was squill, in its various preparations—especially when combined with hyosciamus or opium. Digitalis, where the pulse was sharp, seemed adapted to the complaint. When the inflammatory stage had subsided, Dr. B. thought he saw advantage derived from turpentine and Peruvian balsam.

In respect to the employment of mercury in this class of diseases, Dr. Bright seems to be of opinion that it is injurious, rather than advantageous; although it is consistent with good and successful practice in most other inflammations to avail ourselves of the valuable combination of calomel and opium. Still Dr. B. appears to be in doubt upon this subject. He

observes, however, that the sphere of mercurial practice, in these diseases, is very much limited, on account of the rapidity with which ptyalism comes on, and the difficulty of restraining it afterwards. When the cellular membrane is anasarcous, from renal disorganization, the gums and cheeks are not capable of supporting the process of ulceration, and often pass into a state of gangrene.

"Where, as in a case to which I have only referred, we have a flaccid, watery and dissolved state of the kidney, I can point out no diagnostic symptoms by which it can be discovered, except such as show general debility of circulation and feebleness in the structure of the heart; for probably the feeble condition of the two organs may often be found co-existent. If this be the case, it is not improbable that tonics will be the most appropriate remedies. In one or two cases of anasarca which I have lately had under my care, where from the feeble but extensive beat of the heart I was led to suppose that a feeble state of that organ existed, a combination of sulphate of quinine with squill, effectually restored the patient. And occasionally we find anasarca even with coagulable urine so marked by debility, that tonics and steel give decided relief; probably it is as a tonic that the uva ursi is sometimes useful." 74.

II. *Chemical properties of the Urine.*—Dr. Bostock has favoured the author with a letter on this subject, from which we shall extract some particulars. In the greater number of specimens of urine examined by Dr. Bostock, as passed by the patients whose cases are narrated, the quantity of matter dissolved or suspended was below the average of healthy urine. Dr. B.'s experiments induce him to conclude, that these specimens of urine were not only deficient in some of the natural constituents, but contained a quantity of extraneous matters. The coagulability of the dropsical urine, Dr. Bostock attributes to the presence of albumen; but thinks that this proximate principle is modified or altered, in some cases of the disease under consideration.

Here Dr. B. trenches a little on the pathological physician's province. He observes that the presence of albumen is commonly considered a morbid phenomenon, and a pathognomonic symptom of a certain state of the constitution, or, indeed, of a specific disease. If the albumen be in a state coagulable by heat, the first position may be true; "but it must be admitted, on the other hand, that an albuminous state of the urine is produced by such a variety of circumstances, and many of them of so trifling a nature, as to render it almost a constant occurrence." In his own person, he has hardly ever found the urine entirely free from albumen, and he observed it to be increased to a considerable amount by the slightest causes.

This brings our analysis of the first part of Dr. Bright's work, occupying 88 quarto pages, to a close. In our next number, we shall pursue our analysis, so as to make our readers as well acquainted with the work as can be done through the medium of a journal, and without the assistance of the plates. We strenuously recommend again this very meritorious production to the patronage of the affluent members of our profession, and think that no medical society or association should be without it.

From the London Medical Gazette.

MEDICO-CHIRURGICAL TRANSACTIONS.

On Paraplegia.

Mr. Earle, whose attention has long been directed to the subject, has contributed to the present volume an elaborate and interesting paper on paraplegia. By this term, he understands "that species of palsy in which both sides of the body are affected, in contra-distinction to hemiplegia, where only one side is deprived of sensation or motion, or both."

The most interesting question with regard to paraplegia, is, whether it does or does not occasionally arise from morbid changes within the encephalon, without any disease of the vertebral column. Mr. Earle thinks that it does, and that the symptoms of this form of the disease are such as may frequently enable us to detect it during life. He states, that "the gait of persons suffering from cerebral affection is peculiar, and very different from that attendant on affections of the spine. It very nearly resembles the vacillating steps of a drunkard.—Such paralytic persons are incapable of walking in a direct line; the limbs loose, and thrown forward with an exertion of the whole body; there is a great consciousness of feebleness in walking, and the greatest difficulty in turning round. The appearance of the eyes often much resembles those of a drunkard, particularly when the patient is at all excited or anxious. The above analogy to the staggering steps of intoxication is readily understood, if we consider that it is the temporary disturbance of the brain, from the congestion of its blood-vessels, that deprives the drunkard of the power of directing his steps, and for the time induces a state bearing the closest resemblance to paraplegia.

"Sensation is more impaired than in spinal affections, when it will often remain perfect after a total loss of the locomotive powers. This impaired sensation is often peculiar, imparting an idea of some foreign body, as a leather glove or stocking being interposed. The patient appears to feel, if I may use the expression, through a false medium; the limbs are more wasted and flabby, without any spasmodic rigidity of the muscles, which so often occurs in affections of the spine. Although often accompanied with a torpid state of the bowels, aggravated no doubt by the impaired muscular power of the abdominal parietes, there has not, in any instance that I have witnessed, been any train of gastric symptoms similar to those which so constantly attend affections of the spine, especially of the dorsal region. In some instances there is the additional confirmation of an impaired

state of some of the external senses, accompanied with vertigo, a sense of weight on the head, and a general disturbance of the cerebral functions. As disease advances, the power of the brain in transmitting its influence to the extremities becomes more and more circumscribed."

When the disease has proceeded to the extent above described, the mental faculties become more or less impaired, and then, our author thinks, no reasonable doubt can exist with regard to the disease being in the brain. In slighter cases, however, and where the diagnosis is, therefore, more difficult, Mr. Earle gives the following directions, as calculated to afford material assistance:

"It is well known that when a nerve is stimulated or injured in any part of its course, the painful sensation is referred by the percipient mind to the sentient extremity of such nerve: the familiar instance of the pain referred to the extremity of an amputated limb, may be adduced in proof of this. The exact reverse of this takes place when there is a partial paralysis arising from morbid affection of the cerebral organs. Here the centre of the sensorial functions being impaired, it appears to be incapable of transmitting its influence to the extreme parts of the body, and thus the feet and hands gradually lose their sensation or power of motion, or both: and in such cases, if the nerves supplying the limbs be irritated, *they will convey the impression of such injury only part of the distance down the limb, about as far as the commencement of the paralytic affection.* I have repeatedly examined cases of paraplegia from affection of the spine, and in no one instance have met with the same phenomenon, which I have, therefore, been induced to consider as diagnostic of the paralytic affection being dependent on disease of the brane or its membranes; which opinion has in several instances been confirmed by examinations after death, in which both brain and spinal marrow have been carefully investigated."

Mr. Earle, after a few observations on curvature of the spine, proceeds to relate some cases: and these consist—1st, of paraplegia, dependent on cerebral affection alone;—2dly, of paralysis, from disease of the spine;—and, 3dly, of cases in which there was disease both in the brain and vertebral column.

A gentleman suffered from symptoms about the head and paraplegia. On examination after death, the vessels of the dura and pia mater were found very turgid, the convolutions flattened, and five ounces of serum in the ventricles; a thick layer of lymph on the pons varolii and optic nerves; the whole pia mater studded with small tubercles, particularly at the base of the brain. The cervical portion of the spinal cord exhibited no appearance of disease, except a slight increase of fluid in the theca, which Mr. Earle conjectures might have flowed down during the dissection. This, however, might, or might not have been the case; and as the lower part of the spinal marrow was not examined, we cannot admit this instance as proving our author's position. It shows that there was disease in the brain, but not that there was no disease in the spinal cord.

A young woman had the menses suddenly suppressed, in consequence of which the sensibility of the hands became impaired, while they retained their muscular power. At the end of between two and three years she died apoplectic. Much gelatinous deposit was found towards the basis of the cranium; three scrofulous tubercles in the cerebrum, and one in the cerebellum, which last had suppurated. The cancellous stricture of the bodies of the vertebræ was filled with a cheesy deposit, and they were so soft that they could be cut with the knife:—no perceptible change in the spinal cord or its membranes.

The next case is very interesting, and shows the propriety of steady perseverance in proper means, even under the most discouraging circumstances.

Major L., an active man, aged 38, was thrown from his horse, in November, 1824; he fell flat on his back on a hard road, was somewhat stunned, but soon got up, "shook himself," and rode on. No precautions of any kindwere taken, and in six weeks after, (having been exposed to cold,) he felt some difficulty of swallowing, and could not close his teeth with sufficient force to chew tender meat. These symptoms came on, January 18, 1825, and gradually increased, being attended with a thickness in his articulation; and, on the 23d, with numbness of the feet, and weakness of the legs. The whole of the lower half of the body soon became paralysed, and his arms began to be affected, so that he was unable to grasp any thing. On the 3d of February, Mr. Earle first saw him, when he was in the following state:—

"His lower extremities were completely palsied, he not having the slightest power of varying their position. The muscles were flabby, and much diminished in bulk; his bladder and rectum were paralysed; the muscles of the loins and abdomen were nearly powerless, so that he had no power of supporting himself in a chair; his hands were so feeble, that he could not hold or direct a pen, and when he attempted to shake mine, I could scarcely distinguish his utmost degree of pressure. On cross-questioning him respecting his head, he said he never had pain in it, but acknowledged that he occasionally felt giddiness, and his sight was so far impaired, that he could not see to read above two or three lines without the whole becoming confused."

Mr. Earle conceived the seat of disease to be in the head, and acted accordingly. Ten ounces of blood were taken from behind the ears by cupping, and this form of depletion was repeated several times at intervals,—with mild aperients and antiphlogistic diet. A seton was inserted in the back of the neck, and a discharge kept up by stimulating dressings. The other remedies tried were long blisters in the course of the spine, and afterwards strong camphorated mercurial ointments rub-

bed in on the same part.—Galvanism was afterwards had recourse to, but without benefit.—His progress was very slow, but uniform; and, at the time the paper was written (May, 1827,) he was able to walk with the assistance of crutches, and to stand upright without support, so that Mr. Earle entertains sanguine hopes of his complete recovery.

This case is followed by one of paraplegia, from concussion of the brain, which partially recovered under similar treatment to that mentioned in the preceding; and this division of the subject is concluded by a case of impaired muscular power of the lower extremities, apparently dependent on affection of the brain. Here, too, the patient was relieved by small bleedings and purging.

There are thus five cases detailed, with a view of proving that paraplegia may arise from disease of the brain, without any disease of the spinal cord. In the first, as we have seen, the spine was not examined; in the second, the vertebræ were so much diseased, as to admit of being cut with a knife; in the third, the patient had fallen on his back; while in none of the three last was any opportunity afforded of examining the spine after death; we think, therefore, that Mr. Earle has rendered it probable that his position is correct,—but that the evidence goes no farther: the presence of disease in the head does not prove the absence of disease in the spinal marrow.

A considerable number of cases follow, some of paraplegia, where disease of the spine was found; others, where there was disease both of the brain and cord.

From the London Medical Gazette.

CASE OF CARCINOMA OF THE STOMACH.

Alexander Forbes, aged forty-eight, machine maker, living in Chelsea, admitted under Dr. Chambers, on the 28th of November, complains of tormina, tenesmus, and the frequent discharge of small liquid motions mixed with blood, and says he has no proper fæculent evacuations. His abdomen, which is not tense, is very tender, particularly in the region of the ascending and transverse colon. *No sickness or nausea.*

Pulse 100, small; skin warm; tongue white, moist; urine not passed freely, but natural in appearance; no appetite; he is much emaciated.

He says he has been ill only three weeks with the present symptoms, which are daily increasing in violence, but he has taken no medicines. He attributes his complaints to cold. Hydrarg. submuriat. gr. iij. opii puri gr. ss. ter die. (Milk diet.)

Nov. 30.—Has had several large feculent evacuations, mixed with a quantity of half-digested food, coagulated mucus, and green bile. He is still troubled with griping and straining, particularly at night.

Pulse 90, soft; skin cool; tongue furred at the root, moist; countenance improved; no vomiting; occasional cough; with muco-purulent sputa. Repetantur pilulæ. Sumat horâ somni tincturæ opii xxv. ex haustu pimentæ.

Under this treatment, to which were afterwards added an opiate injection every night, and mustard poultices to the abdomen, he became daily more comfortable as to his bowels, but his debility and emaciation evidently increased rapidly; the tenderness of the abdomen was distressing to the last; but no tumour or hardness was felt in any part of the belly. It may be remarked, however, that he would not allow sufficient pressure to be made on the abdomen for a satisfactory examination with reference to this point. His mouth was not made sore by the mercury. Latterly, he could take no nourishment, except small quantities of arrow-root and jelly, with wine or brandy; and he died on the 11th of Decemher.

Sectio cadaveris.—December 12th.—Appearances in the abdomen.—The great omentum rather more charged with blood than natural.

The stomach had an opaque white appearance externally, which was not natural. Within it a large ulcer, of the true *carcinomatous* character, occupied more than half the internal superficies of the organ. It extended from the cardia close to the opening of the œsophagus, along the lesser arch of the stomach to the pylorus, two-thirds of the annular edge of which aperture were involved in the ulceration, the anterior third part only of the ring being healthy. The anterior and upper portion of the stomach was free from disease internally, except that the villous coat was somewhat thicker than natural.

The pyloric extremity of the pancreas was enlarged and indurated, and the induration had the character of scirrhus.

There was no disease of the absorbent glands in the neighbourhood of the stomach and pancreas.

The mucous lining of the ascending and transverse colon exhibited traces of small superficial ulcers which had been evidently healed some time; the mucous membrane of the bowels throughout was paler and thicker than natural.

The liver was large and firm, but of a healthy colour, and not diseased in structure.

In the thorax.—The lungs were much charged with black matter, and the air-cells filled with thick frothy mucus. But there was no structural disease in the chest.

Observations.—The above case, which is very like those which formed the subject of discussion at a recent meeting of the Medical and Chirurgical Society, exhibits another instance of the imperfection of our present system of symptomatic nosology. In this case there was no symptom wanting of disease in the bowels, and scarcely any symptom present of disease of the stomach, not even nausea, and yet the former were found nearly healthy, whilst the latter was extensively disorganized by malignant ulceration.

From the patient's own account of his com-

plaint, it would follow, that it was only of five weeks' standing.

It is obvious, however, from the appearances after death, that it must have commenced at a much earlier period. He became aware of the complaint, as it would appear, only when it interfered materially with the digestion of his food, which was then passed on from the stomach into the bowels in such a state as to produce the dysenteric symptoms which induced him to apply for relief.—*St. George's Hospital.*

From the London Medical and Physical Journal.

VACCINATION IN TURKEY.

Sir—I hope you will find it convenient to insert in your next number the accompanying interesting letter. It is translated from a copy in French, which has been transmitted to me within these few days, by Dr. De Carro. The facts which it discloses, whether considered morally, medically, or politically, are very curious. He intended that it should appear in the second volume of my Life of Jenner; but as some time must elapse before it can be published, I think it wrong to withhold an account of this signal triumph of vaccination over national and religious prejudices, till that event takes place. I therefore transmit Dr. A.'s letter for your Journal, which, during a long series of years, has evinced unwearied zeal and diligence in recording every important circumstance connected with the vaccine discovery.

I have the honour to remain, sir, most faithfully yours,

J. Baron.

Gloucester, Nov. 2. 1827.

Copy of a Letter from Dr. Auban, a French Physician, settled at Constantinople for upwards of thirty years, to Dr. De Carro, formerly of Vienna, now of Prague.

If during so long a time I have not given you any sign of my being alive, it is because vaccination in this country no longer offered any thing interesting: but an event, which no one could have surmised, and which, in consequence, has astonished all those who have been made acquainted with it, ought to be transmitted to you.

Before announcing it to you, I should remind you that no Christian is ever permitted even to touch any prince of the Ottoman race, or still less to take blood from him in any way, or on any account. The great revolution that has been effected among the Mussulman people since the destruction of the Janissaries has changed every thing! The troops placed on the footing of other European soldiers,—the musket with its bayonet,—the military music, and nothing played except European airs,—a drum major, with his great cane in his hand,—the sappers preceding the regiments,—the Grand Seigneur himself in general's uniform, ordering certain manœuvres; all these are the prodigies which one can with difficulty comprehend, and the whole brought about in a very short time indeed by one individual, but he, in truth, a great man!

Vaccination performed the 16th of May on three Sultans, or Sultanes, (a title given only to infants who are born on the imperial throne,) and two other young ladies of the harem, proves how much every thing has been changed amongst this people.

On the 14th May, one of the physicians of the Sultan's seraglio begged of me to go to his apartments. He told me that he had received a message from the Echim Bachi, directing him to request of me to hold myself in readiness to go to vaccinate the children of the Sultan,—to have the vaccine matter always about me, and not to remove any distance from Pera. I remarked to him, that intrigues would cause some other person to be chosen to perform that operation. He replied to me, "There are no longer any intrigues that can cause the order of the Sultan himself to be altered, who has pointed out you on account of your age, your nation, and your name."

On the 16th, in the morning, an order for me to go to the palace with one of the physicians, who would act as interpreter, was transmitted to me. About nine o'clock we were shown into a chamber allotted to the Echim Bachi, who made no delay in coming. He caused the Kislar Aga (the chief of the black eunuchs) to be sent for, and immediately we three were introduced. At the first chamber where we stopped, we found a young sultan, seven or eight months old, who was vaccinated forthwith. A few minutes afterwards his elder sister, about a year and a half old, appeared; she was also vaccinated; and then was brought in a still younger princess, who was submitted to the same operation: and all this took place without the smallest difficulty or ceremony. In two other apartments, two young ladies were also vaccinated.

The verification was adjourned to the 23d of the same month. The Echim Bachi, being sick, did not come; but we were introduced notwithstanding, and all the persons vaccinated were found going on well, with a most beautiful (*tres-belle*) vaccine pock.

The 28th of the same month we returned to the palace, and the crusts which had formed left no fear about the maturation of the vesicles: all was finished, and complete. The Kislar Aga remitted me a very handsome present on the part of his highness, adding, "I have received this from the hand of the Grand Seigneur, to be given into yours. He has sent it to you also to testify his satisfaction with you. That which you received the first day was sent to you on the part of the mother of the two young princes. We will now go home, to return no more to this place until some new prince be born."

You have here, as I think, a piece of news which ought to be transmitted to you. If you wish for further details, let me know, and I shall consider it a duty to satisfy you. All this was done without the least mystery.

From the Medico-Chirurgical Review.

TRAITE SUR LES GASTRALGIES ET LES ENTERALGIES, *ou Maladies Nerveuses de l'Estomac et des Intestins.* Par J. P. T. Barras, M.D. Medicin des Prisons et du Bureau de Charité, &c. Octavo, pp. 330. Paris, 1827. Balliere, Bedford street, London.

In the 10th Number (fifth volume) of this Series, p. 489—500, we gave a very extended analysis of a paper on the above subject from the same author: in which was detailed Dr. Barras' own case, forming, indeed, the basis of the Memoir. It will be found, that some of the best monographs we possess arose in this way from the personal sufferings of the writers. No verbal description is equal to individual feeling in symptomatology, and, therefore, it often happens, that the pain inflicted on a single person forms a kind of expiation for the multitude. This is particularly the case in respect to stomach affections, to which medical men are very liable, and, from which, the author of the work under review has experienced no small portion of misery. Since the original memoir was published, he has collected fresh materials, and added them to a more systematic treatise on this important malady than the memoir could be said to embrace. We shall endeavour to avoid, or touch very lightly on, the materials contained in the original memoir, and select, from the present volume, as much of the new matter as possible.

1. Our author takes the definition of Pinel for the class of neurosis, or nervous diseases—"lesion of sense and motion, without inflammation or lesion of structure." This is, perhaps, as good as any other definition. The new, or physiological doctrine is acknowledged to have done great good to medical science, though not unaccompanied by evil in the shape of error. One of these errors is strongly protested against by M. Barras—namely, the doctrine which amalgamates the neurosis with the phlogosis—a doctrine powerfully supported by the late Dr. Parry in this country, but still, a doctrine untenable in theory, and dangerous in practice.

Before the days of Broussais, those nervous affections of the stomach known under the terms gastralgia, gastrodynia, cardialgia, dyspepsia, &c. were treated with bitters, tonics, anodynes, and mineral waters, together with country air and exercise. But the New School could see nothing in this class of disorders, but chronic inflammation of the gastro-intestinal mucous lining, requiring leeches to the epigastrium, gum-water, and starvation. But experience—dire experience, has taught M. Barras (and we venture to say, that it has taught some thousands of others, on both sides of the Channel) that the stomach and bowels may be the seat of an affection purely nervous—that is to say, a lesion of its sensibility, quite independent of inflammation or change of structure, which lesion is rather aggravated than relieved by the rigorous regimen and long continued depletion employed under the idea that the disease is inflammatory. We shall first introduce the particulars of some of the new cases, by which our author supports his doctrine and practice in gastralgia.

Case 1.—Madam C. aged 43 years, of very nervous temperament, and subject to pains in her stomach, experienced a severe domestic affliction, in September, 1825. Immediately afterwards, the gastric affection was much aggravated, accompanied by spasms in the chest and sense of suffocation. For these, leeches were thrice applied, mucilaginous drinks prescribed, and the most rigorous regimen enjoined. In November, she became affected with furious delirium, and, in this state, she craved lustily for animal food, and sought to obtain it by main force. M. Barras was consulted, and advised that better nourishment should be allowed. The digestion was distressing at first; but, by gradually habituating the stomach to animal matters, the digestion became easy, and, by the 15th December, the patient could drink a bottle of Bourdeaux wine without inconvenience. With this power of receiving aliment, the strength and flesh returned—her mental aberration disappeared in a great measure, and there is every appearance of complete recovery.

The author remarks that, in this case, it is pretty evident the intellectual disturbance was occasioned by the disorder of the digestive organs. He says, there is but one shade of difference between hypochondriasis and insanity. It is acknowledged, by the best observers, that the *former* is very often dependent on a morbid condition of the digestive apparatus—and, if so, why may not the *latter?* It is true that M. Georget and some other pathologists, place the cause of insanity invariably in the brain. No doubt the *immediate* cause must be in the organ of mind; but this lesion of function or structure in the organ of thought, is very often consequent on disorder in the organs of digestion. In what is called sick headach, the pain is in the head, but the cause is in the stomach or bowels.

Case 2.—M. Legros, 29 years of age, of nervous temperament, and *Maître d'hôtel* at the Prefecture of Police, had long been subject to stomach-complaints, and had difficult and painful digestion whenever he ate food of a cold or flatulent nature. Many times he vomited up the remains of fruit five or six days after eating it. Four or five years ago, he had had attacks of pain in the epigastric region, which harassed him for some months, and then went off. In May, 1826, he had a return of these pains, principally after taking food, accompanied by slow and uneasy digestion, eructations, colic, flatulence, and obstinate constipation; but no fever or vomiting. His appetite continued pretty good. Leeches, to the number of sixty-six in all, had been applied, at five different times, to the epigastrium—with gum-water—warm baths—liniments—starvation. After fifty days of this treatment, the physician in attendance was

taken ill, and M. Barras was summoned. The patient appeared the very picture of a person who was on the point of dying from hunger! Emaciation had arrived at the last degree of marasmus, and the debility was so great, that the patient could not raise himself in bed. His tongue was moist throughout—white in the middle—red at the sides and extremity—face pale—disgust for drink—vomiting, for some days past, of the gum-water which he had swallowed. Still he had some desire for substantial aliment. The pulse was weak—skin cold—urine aqueous and plentiful—stools very rare—nothing particular about the epigastrium, except that the spine could be easily felt through the abdominal parietes! The *morale* was nearly as much prostrated as the *physique* in this wretched patient.

M. Barras almost despaired of affording relief in such a case, fearing some organic mischief. Nevertheless, he cheered the patient with the hope of recovery. Some tender boiled animal food was ventured on, with Brussels biscuit, at first in the smallest quantity, and gradually increased. At the end of twelve days, he could eat the wing of a fowl, or a mutton chop, and drink some claret and water. The appetite now became so craving, that he required the utmost exertion of his reason to restrain it. Even this abstemious diet was not unattended with some pain and inconvenience, both in the stomach and bowels; but still he gained strength and flesh, and, upon this plan of mild nourishment, he recovered so far as to be able to resume his duties in six weeks. Dr. Marc saw this patient, and can vouch for the truth of the statement.

When Professor Baumes lectured on phthisis pulmonalis at Montpellier, half the students fancied themselves consumptive—Corvisart's writings and lectures caused them to believe they had aneurism of the heart—and, in these days, the Val de Grace Professor has stricken half the medical élèves of France with imaginary gastro-enteritis.

"At present, the medical students of the New School dread nothing but chronic inflammation of the stomach. As soon as they feel any uneasiness in the epigastric region, or any symptom of indigestion, they examine their tongues before a glass, or show them to one another—and if they perceive, or fancy they perceive, any redness on the sides or tip, they pronounce themselves affected with *gastro-enterite*. This false idea leads them to the use of leeches in relays—to gum-water—and acid slops. After a time, this debilitating process engenders a morbid sensibility in the stomach, and the return to solid food is accompanied by pain and inconvenience. They then have recourse to more leeches and other antiphlogistics. By this plan, their stomachs are enfeebled, and their nervous systems so much deranged, that the body and mind act and re-act on one another, so as to render them miserable." 48.

With a very trifling alteration in names, this picture would not inaptly apply, in no small number of cases, on this side of the Channel. Leeches—blue-pill—black draughts, and other measures of the kind, have damaged many a stomach in England, and aggravated, if not engendered, the very disease which the remedies were designed to remove!

Case 3.—M. N. a provincial physician, 40 years of age, of nervous temperament, was very subject to pains in the stomach, which generally yielded to rhubarb. Being a prisoner in Hungary, during one of these attacks, he applied ice to the epigastrium, and was quickly relieved. He became a zealous convert to the new doctrine. In the month of September, 1824, he was once more seized with gastralgia. He applied leeches to the epigastrium, and put himself on a course of gum-water and slops. He seemed much relieved for a time: but having been exposed one day to wet and cold, the pains returned with increased intensity, and he considered himself affected with a veritable *gastro-enterite*. Leeches, to the number of 120, were applied to the epigastrium, with all the usual antiphlogistic adjuvants. But, instead of relief, the patient experienced an aggravation of the malady. In this state he came to Paris, in January 1825, and hastened to consult "un medecin physiologiste." The physician confirmed the diagnostic of the patient, but was wise enough to leave off the leeches, and only adhered to the other parts of the plan hitherto pursued. The patient got worse. "The sensibility of the stomach was exalted to such a pitch, that the least particle of food produced great pain, nausea, and insupportable malaise." The tongue became red—the stomach flatulent—the constipation obstinate. The spirits were extremely depressed—the flesh wasted away. The nourishment was still farther diminished. In the mean time, the unhappy patient was dying with hunger, and dared not to eat! In a fit of desperation, one day, he ventured on a bit of chicken. This did not produce much uneasiness. He went into the country, and continued the light animal food, with great benefit. The morbid sensibility of the stomach gradually diminished—the digestion became more easy—the strength and flesh gradually increased—the spirits rose. At this time, M. Barras's Memoir fell into his hands, and he soon recognized his case to be one of gastralgia, rather than gastritis. He accordingly consulted the author of the Memoir, who advised him to pursue the course of light animal food, and in two months he was quite well, with the exception of a slight disposition to hypochondriasis.

Remarks.—We acknowledge that there is great difficulty sometimes in distinguishing irritation from inflammation—or, in other words, gastralgia from gastritis. In fact, the two states very often co-exist. Extremes approximate in this, as in many other cases: and ultra-depletion, with acid slops, &c. will often augment the uneasiness in the stomach as much as stimulating food. The great art consists in regulating the diet according to the degree of susceptibility in the stomach. We are no advo-

cates for *repletion*, but we are not blind to the injury which is done by *depletion*, in nervous constitutions, where irritation is far more likely to predominate than inflammatory action.

Case 4.—M. P. aged 26 years, of nervo-sanguineous temperament, and exposed, from his infancy, to constant domestic turmoils and disquiet, applied himself, at a very early age, to intense and long-protracted studies. Before the age of ten years, he became affected with headachs and vertigo—at fifteen, he complained of great irritation in the bladder—and between sixteen and nineteen, he was subject to repeated quinsies. In addition to the above, he had a most capricious stomach—his sleep was bad—and his temper restless and irritable. Up to the Autumn of 1823, however, his digestion had not been much in fault. At that period, his appetite declined—his tongue became furred—pain was felt in the stomach—the pulse was quickened—he had flushings of the cheeks, and sense of constriction about the throat. These phenomena were principally conspicuous during the period of digestion. Wine, coffee, brown, and ultimately white meat, were successively abandoned—and, ultimately, the patient was compelled to live upon soup alone.

Notwithstanding this rigid regimen, M. P. experienced severe pains in the epigastrium two hours after eating, together with obstinate constipation. In this condition the patient continued eight months. In April, 1824, he became affected with a relaxed state of the bowels, the motions being mucous, sanguineous, and containing little or no real fæcal matters. There was much pain in the abdomen, augmented by pressure—discharge of fetid gas from the bowels, with nausea, sense of strangulation, white tongue, quick small pulse, &c. All solid food was prohibited—rice water was ordered to be drunk in abundance—leeches were applied both to the anus and epigastrium, (by which the pains were increased)—emollient injections were prescribed—and one grain of opium was daily given. In three weeks the diarrhœa was removed, and it was succeeded by the original constipation. The sense of hunger was now indomitable, and some rice was allowed. The symptoms were much mitigated. Soup and vegetables, the only food allowed, still produced pain in the stomach, and considerable nervous excitement throughout the system. In July, all the original symptoms returned with aggravation. No cause could be assigned for this, except sulphureous baths, which produced great irritation on the surface of the body. Leeches were again applied, and the patient was twice bled from the arm. The sufferings were increased, and food could not be borne. The disease was now considered to be more nervous than inflammatory, and blisters were applied to the insides of the thighs. The symptoms were still farther exasperated; and, during eight days, there was much fever with excessive pain in the epigastrium. Opium and the warm bath were the only means that gave temporary relief, with the exception of *pressure*, which also solaced the pain. He went into the country in the latter part of August, and there he was obliged to confine himself entirely to light soups. Even these sometimes occasioned great malaise or actual pain. Milk next became his principal nourishment, and of this he took upwards of two pints in the 24 hours. Three months passed in this manner, the patient living sometimes on soup, sometimes on milk. Leeches had been several times applied in this time, but always with increase of the disorder.

About the middle of December, he experienced a great exasperation of the complaint—the epigastric pain after eating being insupportable, and to this was added a periodical cephalalgia returning every four or five days, beginning about midday, and lasting till midnight. He had now almost constant fever, nocturnal perspirations, and œdema of the lower extremities. At this time, a vein was opened in the foot, and, for the first time, bleeding gave relief. He went on sometimes better, sometimes worse, till the 3d of March, 1825, when he began to go out in a carriage. He continued to be bled, and to use the warm bath, from time to time. In the spring of 1826, this unfortunate patient experienced another exasperation of the malady, apparently from having taken a glass of wine. The fever, the furred tongue, the constipation, and other symptoms, became as bad as ever, and leeches were frequently applied, as well as blood taken from the arm. Milk diet was solely employed—and horse exercise was taken. In the months of May, June, and July, the patient ventured on small quantities of fowl and bread. They were digested with pain, and the digestion was almost always accompanied or succeeded by sense of distention in the stomach, difficulty of breathing, acceleration of pulse, and heat of skin. These symptoms were mitigated by decreasing, or entirely omitting, the poultry and bread. Bleeding, however, almost invariably increased the distress. In the course of this summer, the cold-bath was cautiously tried, and was evidently productive of benefit. In October, 1826, the patient came under the care of Dr. Barras. At this time, his food consisted of small quantities of milk, gruel, chicken, biscuit, and a few well-boiled vegetables, with water for drink. This diet still produced distention, pain, and even some fever. But his strength was considerable, and he was by no means emaciated. His own remark was as follows:

"My stomach is so capricious, that what will agree one day, will disagree the next; but I always find, that a simple diminution in the *quantity* of my food has more effect in reducing the symptoms than all the leechings or other means that can be devised."

The above case presents a good example of that *morbid sensibility* of the stomach and bowels which seems to constitute the principal feature in dyspeptic affections.* We con-

* The following passage in a work recently published by Professor Schmidtman, of Ber-

sider the disease to have been, fundamentally and generally, a gastralgia, rather than a gastritis; but we have little doubt that, occasionally, there was some inflammatory action mixed up with a high degree of nervous irritation in the digestive apparatus.

Dr. Barras has introduced a considerable number of cases from a work by Professor Schmidtman, of Berlin, on cardialgic affections, in which the German physician takes nearly the same view of the disease as our author. The plan of M. Schmidtman was generally the exhibition of bitters and tonics, with light plain food, in small quantities, rather than the leechings and slops of the Broussaians. These cases we need not detail. Nor shall we stop to portray the etiology of the disease, as we have given a pretty full view of this in the analysis of the original memoir.

Theory of Nervous Affections.

M. Barras conceives that, from an attentive observation of the phenomena of the neurosis, we may divide them into two classes or states—namely, neurosis dependent on irritation or excess of tonicity—and, neurosis dependent on debility or defect of tone in the nervous system, in the same way that we have inflammations of a *sthenic* and of an *asthenic* character—and hemorrhages of an active and passive nature. He denominates the former "neurosis *per erethismum*"—the latter, "neurosis *per atoniam*." Tetanus is adduced as the prototype of the former, (tonic neurosis,) and paralysis as that of the latter, or atonic neurosis. The one class is characterised by *exaltation* and disorder of the sensibility, and also of the functions of the nervous system—the other, by depression (affaiblissement) and trouble of the sensibility and functions.

But, as nature always proceeds by gradual steps, and never suddenly, so, between erethism and atony, there are innumerable shades, till, at length, the two extremes meet and intermingle. But it is to be remembered, that *debility* of the nervous system is very frequently accompanied by *irritability* of the same system, a circumstance that embarrasses us much in the application of remedies. Hence the danger of using stimulants in cases of debility of the stomach, for example—since the morbid sensibility of the same organ may thus be greatly exasperated. "Alors la maladie ne parait consister que dans une *mobilité* extraordinaire de l'appareil sensitif, et elle n'a, pour principal symptôme que *l'aberration de la sensibilité* et des fonctions de cet appareil." In short, it comes to that state denominated by Dr. Johnson, "MORBID SENSIBILITY"—a condition seldom absent in this class of maladies:—a condition which, as often combining the elements of atony and irritability—of phlogosis and neurosis, demands a mixed or alternated treatment, according as one state or other happens to predominate. It is incredible the mischief that is done by *routine* practice in this class of human maladies! The drastic purgatives, the fiery tonics, and the long continued mercurials, are the bane of dyspepsia—and even where the medicines are proper, the inattention to diet, both by patient and physician, often renders fruitless the whole range of the pharmacopœia. Well may Dr. Barras observe, that the treatment of dyspepsia "est hygiénique plutot que medicinal."

The author before us remarks that, the precept laid down by most medical men, "to eat little and often," is an error into which he himself fell, and to his cost.

"In this complaint," says he, "it frequently happens that a pressing desire for food takes place a few hours after a reasonable repast. Wo to him who indulges this appetite! It is a morbid sense of hunger which ought to be borne with, unless extremely urgent.* It is certainly better to eat at stated periods, of regular duration, than to be frequently satisfying the stomach. At the same time, it is necessary, in these cases, not to use too sparing a diet, even where there is pain or uneasiness after eating, otherwise the stomach will, as it were, prey on itself, and the irritability will be increased. Indeed, it requires all the vigilance of the physician to watch and manage these cases, so as not to err on either extreme."

We consider that our author has verged towards a dangerous point in the following precept.

"In those cases of gastralgia accompanied by appetite, the patient may eat with perfect security, and without fearing gastritis. He ought not to retrench one particle of the usual quantity taken in health, except in some rare cases, where the alimentary matters are rejected—that is, where the sensibility of the stomach is so exalted, that it cannot bear the contact of victuals. Neither the malaise, the weight at the epigastrium, the exasperation of pain after eating, or even the vomiting of watery matters some time after meals, should deter him from taking food, since these inconveniences are less prejudicial than continual hunger—and of two evils, it is better to choose the lesser."

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lin, shows the most remarkable correspondence of ideas between the German physician and Dr. Johnson, on the state called morbid sensibility of the stomach.

"Quantum investigando (says he) et cogitando potui assequi, cardialgia primaria (the name which he gives to dyspepsia) semper fundatur *in nimia et immodica ventriculi sensibilitate.*"—SUMMA OBSERVATIONUM, &c. BERLIN, 1826.

* This ravenous desire for food, so soon after eating, is a strong proof of "morbid sensibility" in the stomach. This organ cannot bear the presence of food long enough to be perfectly digested, and the consequence is, that the food is passed into the duodenum in a crude state, and due *assimilation* is never performed. Hence the patient wastes in flesh, and decays in strength, while he eats more than a person in health.—*Rev.*

We certainly should counsel the patient, in such cases, to keep a guard over his appetite, and not eat quite so much as in health, however pressing the desire for food. We agree with the author in the following precept. "Those who do *not* feel this sense of hunger should content themselves with a small quantity of food, but not abstain from it entirely, unless the aliment be vomited up soon after eating. I have found a small quantity of food, under these circumstances, better than entire abstinence." In those inordinate appetencies, entitled bulimiæ, he cautions the patient against eating to satiety. "In all cases, it is best to eat at stated periods, and to confine the meals to three in the 24 hours."

The quantity, as well as the quality of our food, in gastralgic affections, is to be strictly attended to. Chicken broth, with rice, barley, or biscuit, is the best species, according to our author, to begin with, and then to gradually ascend to mutton, and even beef, carefully watching the effects. Dr. Barras seems to have a great partiality for rice and maize, but to dread some other of the farinaceæ, as salop, tapioca, &c. He does not object to gruel and panada. Dr. B. is inordinate in praise of sugar, as being, "veritablement l'ami des nerfs." We have no objection to a moderate proportion of this substance, against which an unfounded prejudice exists on this side of the Channel. Tender and well boiled vegetables may be ventured on, and continued, unless they produce flatulence or acidity. Asparagus, sea-cale, cauliflower, young turnips, may be tried when the patient is tired of stale bread and biscuit.

For drink, our author advises water, just coloured with claret or old Burgundy. "In those numerous cases where it is impossible to say whether erethism or atony most prevails, and where we see only proofs of morbid sensibility of the stomach, we ought to begin with the very lightest species of food, in small quantities, and gradually ascend in the scale of diet, according as the digestive power of the stomach improves, and its morbid sensibility diminishes."

He very properly remarks, that we can only lay down general rules, in our dietetics, subject to numerous exceptions, varying with the idiosyncrasies of different patients.

Epigastric leeching, Dr. B. confines to cases where the patient is robust, where eruptions or evacuations have been suppressed, and where there are strong symptoms of gastritis, rather than gastralgia. To the vegetable acids and gum water, so useful in chronic inflammation of the mucous membrane of the stomach, he decidedly objects in cases of dyspepsia.

The morbid sensibility of the gastric and intestinal nerves being once subdued, or at least allayed, we may have recourse to light bitters, and ultimately tonics. But our author very prudently warns the practitioner against the too early use of these medicines, by which thousands of stomachs in these kingdoms are ruined! "Mais, si une longue medication adoucissante entretient et perpetue les maux des nerfs, il y a aussi du danger à passer tout d'un coup à l'emploi des fortifians; ce passsge subit et sans gradation ne manque pas de renouveler l'irritation nerveuse:—Il pourrait même enflammer l'estomac."

The author touches on various points of hygiene, as connected with the treatment of gastralgia. He strongly recommends the air of the country, and hints at the good effects of travelling; but he is evidently unacquainted with the powerful influence of this last species of exercise and recreation on the digestive organs. The French, indeed, are bad travellers—at least they have not half the passion of the English for this agreeable mode of life; nor do they seem to enjoy the natural beauty or majesty of scenery like their insular neighbours. Be this as it may, the man of opulence, or even moderate means, who labours under any of the more severe forms of gastric disorder—and God knows these forms are numerous enough, does a great injury to himself, if he tries not the effect of travelling for its cure, especially among the mountains of Scotland, Wales, or Switzerland. But, as we shall take another opportunity of laying before the profession some more extended observations on this subject, we say no more at present.

From the Edinburgh Medical and Surgical Journal.

POISONING WITH ARSENIC—*Perforation of the Stomach—Detection of the Poison in very minute quantity—Inefficiency of the liquid tests.*

By Robert Christison, M. D. F. R. S. E. F. R. C. Physician and Professor of Medical Jurisprudence and Police in the University of Edinburgh, &c.&c.

Margaret Wishart was tried at last Perth Spring Circuit for the murder of her sister Jean and her natural child, by administering to them arsenic or some other poisonous substance.

The deceased Jean Wishart was totally blind, and in consequence had been for some time a burden on her sister, the prisoner, who in particular always made ready her food. The blind woman had a lover in the person of a man Roy, a lodger in the house, by whom she had a child about four years before her death, and by whom she was again pregnant at the time the poison was supposed to have been given. This man was also on very intimate terms with the prisoner, and there was strong reason to believe that he cohabited with her. Such being the state of the household, it may be conceived, that the several members of it could not be on good terms with one another. Accordingly, although several neighbours bore testimony to the friendly disposition of the prisoner towards her sister, those who lived in the house with them deposed, that the deceased frequently complained of the usage she received both from her sister and from Roy; and she asked one witness to take her as a lodger, as on account of

her pregnancy she was apprehensive of ill treatment at their hands, and even used the expression that "she would not get leave to live."

On the evening of Tuesday the 3d of October she was seen by a neighbour taking porridge to supper; the prisoner and a man who lodged in the house being present, but not joining her. About twenty minutes afterwards she felt unwell and blamed the porridge as the cause; and in a few minutes more she was attacked with vomiting. During her subsequent illness, which ended fatally on the evening of Saturday the 7th, she had not any medical attendant, except that on Friday, when she was taken in labour, a midwife was sent for to deliver her. Several people advised the prisoner to get a medical person to attend her, and the deceased herself asked her to do so; but she refused, saying that she could not afford it, and that all the doctors in Arbroath could not do any good. She likewise refused to send for another sister who lived in the same town.

A few weeks before her trial the prisoner added an important circumstance to the moral proof, which, it will be seen, was previously by no means strong, by attempting to suborn a witness. A young woman, who visited her in prison, said in presence of the jailor and others, that she had accompanied the deceased to various shops in Arbroath, to ask for poison, and that the deceased actually got arsenic at one of them; but on the trial she confessed that it was all a fabrication, and that she had been prevailed on to tell it by the prisoner's repeated importunities.

No evidence could be procured that the prisoner had either purchased arsenic or had it in her possession.

The medical evidence in this case rested chiefly on the morbid appearances and chemical analysis.

The account which could be procured of the symptoms was exceedingly imperfect, as it merely went to show that the deceased was affected with more or less vomiting, purging, thirst, and general uneasiness, from the evening on which she was taken ill till that on which she died; that she was delivered of a living child on Friday; and that on Saturday morning the limbs were cold and stiff. An important point regarding the symptoms, however, was ascertained,—namely, that they began within half an hour after a meal. The symptoms do not appear to have been violent. Such as they were, the witnesses for the crown all agreed, that they might be caused by arsenic, but admitted that they might equally be caused by natural disease.

The body was disinterred for examination on the 15th, eight days after death, by Drs. Arrot, Sharpey, and Palmer; and the following is an account of the chief appearances described in their report. On opening the abdomen they found about a pint of red-coloured liquid in the cavity of the peritoneum, a small perforation on the anterior surface of the stomach, through which a small quantity of black fluid escaped,—the external surface of the intestines red and highly vascular,—the uterus not reduced to its natural size,—the other viscera healthy. The stomach contained a thick, opaque, brownish-black liquid, and a little solid vegetable matter. Its inner surface was very vascular, and marked in different places with dark brown spots of various sizes: and the villous membrane was abraded here and there. The intestines were internally very red and quite empty.

A portion of the stomach, including the perforation, together with part of the contents, was sent to me for examination and analysis. The stomach having been preserved in a bottle along with the contents, and the examination not having been made till the 21st, the vascularity had entirely disappeared, and the membranes had imbibed the fluid like a sponge —but the nature of the perforation was quite distinct. The aperture in the peritoneal coat, which was about the size of a pea, was surrounded by a dark, ragged margin, and the inner coats were more extensively destroyed around it.

The chemical evidence was decisive of the presence of arsenic in the fluid part of the contents, and still more in the coats of the stomach.

Drs. Arrot, Sharpey, and Palmer, made several solutions by diluting and filtering the contents, and by boiling portions of the stomach and filtering the decoctions. In none of these fluids did the ammoniacal sulphate of copper, or ammoniacal-nitrate of silver indicate the presence of arsenic. But the sulphureous test in all its forms gave satisfactory indications. After some preliminary trials with sulphurated hydrogen water, and the hydrosulphuret of ammonia with the subsequent addition of muriatic acid, they united the various fluids, and subjected them to the process which I have recommended.* The liquor was acidulated with acetic acid, and then subjected to a stream of sulphuretted-hydrogen; upon which a yellow precipitate was procured, that yielded by reduction with the black flux, in three different trials, patches of metallic incrustation. I regret that the limits of this abstract do not permit me to give more than the substance of the able report of the Arbroath gentlemen. The whole investigation reflected the greatest credit on them, but particularly the chemical part of it; for, if I may judge from my own experiments, there has never been a judicial inquiry in which so minute a quantity of arsenic has been so unequivocally discovered.

In my own analysis I first formed a decoction of the contents of the stomach separately, and subjected each, after acidulation with acetic acid, to sulphuretted-hydrogen gas; a lemmon-yellow milkiness ensued, which on boiling gave place to a lemmon-yellow flocculent precipitate, with brilliant brass-yel-

*Edin. Med. and Surg. Journ. for July 1824, and Edin. Chir. Med. Trans. Vol. I.

low scales intermingled. This, when collected from both fluids and dried and reduced in a small tube, gave an arsenical crust with all its properties fully developed; and the crust was converted by repeated sublimation into little octahedral crystals of oxide of arsenic, which I estimated as amounting to about a fortieth part of a grain.

As the decoction of the stomach still retained its yellow colour, I evaporated it, and procured a yellow precipitate in broad flakes. Knowing from experience that there was too much animal matter present in this precipitate to admit of the process of reduction being applied directly, I subjected it to a farther process, in order to destroy the animal matter. The impure sulphuret was acted on by nitric acid with the aid of heat, and consequently oxidated; the acids were then neutralized with potass, and the solution evaporated to dryness; the mass was then deflagrated in a glass tube, which process takes place gently, with effervescence and without burning, if the proportion of the nitre is not too small; the product was then dissolved out, exactly neutralized with nitric acid, filtered, a small portion tested with nitrate of silver, which gave a brick-red precipitate, and the remainder treated with a solution of nitrate of lead as long as any precipitation took place. The precipitate, which, besides other salts, contained arseniate of lead, gave a remarkably characteristic crust when mixed with freshly ignited charcoal and heated in a tube strongly with the blowpipe; and the crust subsequently gave octaëdral crystals when repeatedly sublimed.* The quantity of oxide procured by this process was not sensibly greater than by the former.

The prisoner was convicted of poisoning her sister. Many persons entertained doubts of the sufficiency of the moral evidence, and some attempts were made to procure her pardon on the ground of its inadequacy. She was executed, however, and died protesting her innocence.

The above case is interesting on account of the extreme minuteness of the quantity of arsenic detected, the quantity being less, I believe, than was ever detected before in medico-legal practice. It is likewise interesting, as it shows how much more skilfully medico-legal investigations are now conducted in country districts than they were but a few years ago; for the researches of the Arbroath gentlemen are, with some insignificant exceptions in point of form, complete in every particular. And it is farther valuable as being, so far as I know, the only example yet published, which will authorize a very frequent statement in general works on medical jurisprudence,—that arsenic causes perforation of the stomach.

* I have since been in the custom of employing a different process for getting rid of the animal matter *before* the precipitation of the sulphuret; and in consequence the sulphuret under all circumstances is procured in a state fit for immediate reduction. This improvement I shall soon have an opportunity of making public.

From the London Medical and Physical Journal.

SIR GEORGE SMITH GIBBES ON LIFE.

It appears, from well-established experiments, that all the animal tissues are resolvable on decomposition into minute bodies, which, in water, and under the influence of the sun, possess life and activity. These animalcula, or, more properly speaking, these ultimate points of vital activity, cannot be further decomposed except by the agency of fire, when they become subject to chemical laws, and assume the state of gas.

By the aid of the microscope, and with a little management, it may be clearly seen that many of the processes of life depend upon these minute animals, and that the ordinary laws of matter, or the laws which regulate the material world, are totally out of the question in explaining the phenomena presented by these, the apparent rudiments of vitality.

The vitality and activity of the animalcula infusoria depend upon the influence of the sun, under which every pool of water becomes tenanted by myriads of them, all displaying, when examined by the microscope, the most unequivocal proofs of life.

The sun, the source of life as well as light, supplies this vitality in all the endless variety of organized and living action; and modifies matter, in all these processes, in a manner totally different from all physical and chemical principles. We might as reasonably compare a scarlet colour with the sound of a trumpet, as the phenomena of life and organization with any of the subjects or any of the laws of the material world.

The most subtle fluids, as heat, light, electricity, magnetism, &c. present phenomena which every new discovery brings nearer in affinity to the material world. Life, on the contrary, is wholly independent of all these, opposing the laws of matter in every instance, and defying, in all its combinations, those laws of affinity and attraction which form the foundation of the physical sciences. Organized bodies are endowed with properties totally different from all others, and no portion of such bodies is subject to the ordinary laws of nature until every vestige of life be extinct.

Although in the dissecting room the human subject be dead as regards the creature then under consideration, yet the vitality is not lost, for every part of the organized structure resolves itself into new arrangements, and myriads of vital rudiments reassert their rank in the living world. Thus manures supply them to the growing vegetable, and digestion prepares them for the use of animals. Built up as the human fabric is by innumerable myriads of living rudiments, we easily admit the fact that every portion of it possesses vital

powers: powers, in every possible view of them, wholly differing from the laws which regulate every subject of the material world.

Above thirty years ago I instituted a series of experiments respecting this very curious subject, which appeared then, as they now do, quite conclusive as to the essential purpose which the animalcula infusoria perform in the growth of vegetables. It was from considering the opinions of Ingenhouz, Priestley, and others, on the nature of the green matter which forms on water, that I was led to examine very carefully with the microscope the animalcula infusoria, and to observe this matter, and the fibrillæ of the roots of other vegetables, whilst growing in water. Myriads of animalcula may be seen around the extremities of such vegetables, and it appears that these minute living bodies agglutinate themselves together, and *absolutely themselves become the added part:* so that the fibres seem to be nothing more than a congeries of these animalcula, forming the growing part. They may be seen like bees entering a hive, and making up, when fixed together, the fibre itself.

The whole substance of the conferva rivularis certainly appears to be nothing more than a condensed congeries of the animalcula infusoria. If a basin of water be half shaded from the sun, whilst the other half is exposed to its rays, we find the shaded water to be without the animalcula, whilst they swarm by myriads in the exposed portion.

If a sprig of mint be placed in this water, the fibres of the roots extend and grow in the illuminated portion, but they make no advance in the dark part. The animalcula are seen to be supplied on the one side, and to fix themselves on the ends of the fibres, and to increase them longitudinally: on the other side, the animalcula being absent, the roots do not grow. The increase of the several parts of vegetables seems entirely dependent on the supply which they receive of these animalcula by the roots, leaves, &c.; for the leaves and blades of corn, even when growing in a room, are terminated by drops of water evidently supplying these monades, which arrange themselves according to the necessities of the growing vegetable, and according to the impulse originally given, and continuall supplied by the seed of the plant.

The whole history and nature of compost and manure lead to the conclusion that, by certain decompositions of animal and vegetable matters, these first rudiments of life are again set free to become, under new arrangements, subservient to the growth of the renewed vegetation.

I purpose in my next communication to show the application of the foregoing observations to the animal system; their importance in explaining and directing the actions and functions of its most essential organs, and proving how far we may consider the living world independent of the ordinary laws of matter.

Bath, September, 1827.

From the Lancet.

CASE OF TETANUS FOLLOWING THE DIVISION OF CICATRICES, CONSEQUENT UPON A BURN.

The following case of tetanus, supervening the division of cicatrices of long standing, and the result of a severe burn, has excited much interest. The tetanic symptoms, it will be seen, came on three weeks after the performance of the operation, and at a period when the wound was granulating, and in a very healthy condition; the disease ran its course uncontrolled by the means employed, and proved fatal on the ninth day.

The patient, a spare female, 15 years of age, and of light complexion, was admitted into Mary's Ward on the 5th of September, under Mr. Bransby Cooper. She had been severely burned when about three years old, and in consequence there were contractions of the skin, both at the anterior and posterior fold of the axilla, which in some degree interfered with the motions of the arm. At a month after admission, an operation was performed by Mr. Cooper, which, in fact, consisted simply in the division of the parts. About three weeks afterwards, on the 14th of October, and when, as we before stated, the wound was in a healthy condition and healing fast, she complained of stiffness at the back of the neck, which she attributed to cold. On the following day, Monday the 15th, the stiffness had somewhat increased, and was attended with some pain, and on Tuesday the particular attention of the dresser was called to her; the bowels at this time were constipated, there was much rigidity of the muscles of the neck and those beneath the jaw, and the mouth could only be opened to a short distance. A purgative draught was prescribed to be taken every three hours, and a pill, composed of tartar emetic, opium, and calomel, ordered to be taken every six hours. In the evening a purgative enema was administered. On the following day, the 17th, the symptoms were further aggravated; the pulse was very rapid, and there was general spasm of the muscles. A warm bath was directed, and the antimony and opium continued, the calomel being omitted. Hemlock poultices were applied on the day previously, and these were continued,

On the 18th the poor girl was in a most distressing condition, all the symptoms of tetanus existing in a high degree; the warm bath afforded slight relief. Half a drachm of laudanum was exhibited, which in some degree appeared to lessen the violence of the symptoms; subsequently the dose was repeated twice, without any manifest effect.

On the 19th and 20th, the poor girl continued in a most distressing state; the slightest excitement bringing on the most violent spasms of all the muscles of the body; the pulse was very rapid and skin moist, and these symptoms prevailed in a remarkable degree throughout the disease. Æther was now frequently exhibited, and on the 20th a turpentine enema was exhibited, the bowels not

having been freely acted upon since the attack.

On the 21st, a blister was applied to the pit of the stomach; the symptoms, if possible, had increased in violence, and the poor creature was now incapable of taking either medicine or nutriment. She continued in this state throughout the following day, and until about eleven o'clock of Tuesday morning, the 23d, when she died, being perfectly sensible, as indeed she had been, throughout the entire progress of the disease.

The friends would not permit the body to be examined.—*Guy's Hospital.*

From the Lancet.

CASE OF ENORMOUS OVARIAN TUMOUR—*Interesting Post Mortem Examination.*

Mary ———, Oct. 20, of a scrofulous, delicate habit of body. In the beginning of January last, after having been copiously bled for a supposed aneurism of the heart, she first perceived a small hard tumour in the left groin, which was attended with no pain, and indeed scarcely attracted her attention. This, however, gradually increased in size, and as it became larger, produced severe pains, extending through the pelvic cavity. In June, it had attained a very considerable size, and produced a swelling of the abdomen, apparent to every observer. Her general health became affected, she lost flesh and strength, and had œdema pedum. At this period she consulted Mr. Wardrop, who, as she did not wish to become a patient in the hospital, has visited her occasionally with her medical attendant, Mr. Blackstone, of Camdentown, till the period of her death. Notwithstanding the employment of every means usual in such complaints, the tumour gradually and rapidly increased. She was, latterly, attacked several times with inflammation of the peritoneum, which rendered the abstraction of blood necessary. This, however, had the unavoidable effect of greatly reducing her strength; and, two months ago, a collection of fluid had taken place in the abdomen. From this accumulation of disease, and worn out by the repeated attacks of peritoneal inflammation, she at length died on the 24th of October.

Dissection. On laying the abdomen freely open, a tumour was seen occupying the whole cavity of the pelvis and part of the abdomen, extending from the sacrum to above the umbilicus, and completely filling up the intermediate space. This tumour, whose surface was covered by a serous envelope, was considerably broader above than below. Its superior surface was uneven, but not ulcerated, and was studded with several large formations resembling hydatids in an inspissated state, while at its base there projected an ulcerated mass, exactly resembling cineritious matter, and having the appearance of fungus hæmatodes.

At the lower and anterior part, the swelling adhered strongly to the broad ligament of the uterus, and to the Fallopian tube—but not a vestige of the left ovary remained. At other points it had no attachments, except where it was in contact with the sacral vertebræ. The uterus was small and sound, although containing a quantity of a viscid glairy fluid. The right ovary was slightly enlarged and very much indurated, but had no connexion with the tumour. In the peritoneum, reflected over the uterus and bladder, there was a great congeries of large tubercular bodies, in various stages of development, but none of them, in this situation, had the appearance of hydatids, such as have been described as existing at the superior margin of the foreign mass.

On cutting through the tumour, it was found to be composed of various structures: inferiorly, of soft cineritious matter, contained in large cells; in the centre, of a substance resembling blood; superiorly, of a harder fleshy structure, intersected with thick cellular membrane; and around its margin, it was formed of a green matter, resembling lymph. Besides this general appearance, on more minute examination there were observable many small cysts, containing a curdy matter, interspersed throughout the whole mass. On cutting out this enormous tumour, it was found to be 31 inches in circumference.

By prosecuting the dissection, the pancreas was discovered to be greatly enlarged, and converted into a substance resembling in appearance the ovarian tumour, while a vast number of mesenteric glands were increased in size, and composed of soft cineritious materials.

The peritoneum at several parts was of a deep black colour, and the omentum was evidently in a melanotic condition, containing in its structure, a black matter which could be easily washed away. The mucous membrane of the vagina, uterus and intestines was slightly vascular.

The occurrence of hydatids and tubercles in different stages in the same diseased structure as happened in this tumour, is one of rather a rare occurrence. It appears to be highly confirmatory of the opinions advanced by Baron and Jenner, as to the origin and development of tubercles.

From the London Medical and Physical Journal.

CASE OF DISTENTION OF THE UNIMPREGNATED UTERUS WITH BLOOD.

By John Paul, M. D., Member of the Royal College of Surgeons in London.

The following case, I hope, will not be deemed unworthy of record in the London Medical and Physical Journal, as it furnishes us with a valuable pathological fact: for, so far as I know, distention of the unimpregnated uterus with blood to the same extent, and occurring in the same manner, has not hitherto been taken notice of. If in this I am mistaken, want of reference, to which a provin-

cial surgeon is necessarily subjected, must plead my excuse.

A. B——, an unmarried lady, ætat. forty-three, delicate in her health and of lax fibre, has been three times the subject of the complaint, of which I am now to attempt a short description. She had the first attack in the autumn of 1820, the second in the summer of 1822, and the third in December, 1826. Previous to this last illness, she had undergone great fatigue in attending a near relative, who was very ill of fever, and in whose recovery she was deeply and anxiously interested. For many nights during her attendance she had not been in bed, and was much exposed to cold. Her menstrual discharge came on whilst she was thus engaged, and, after continuing nine days, greatly too profuse, it suddenly stopped; and on the following day her abdomen was tumid. She was now obliged to confine herself to bed.

The discharge returned two days after; and, when I saw her on the 8th of December, she had been five days confined to bed, during which time she had had no sleep, and complained that she was distressed with headach and great uneasiness in her back. She was extremely despondent, and exhibited occasionally symptoms of hysteria; pulse was ninety-eight; heat of skin was rather above the natural standard. On examining the abdomen, it was with ease ascertained that the uterus was greatly enlarged, its fundus extending very near to the umbilicus: and in this there could be no deception, as the abdominal parietes were so thin that the outlines of the distended uterus could be distinctly traced. It was fully as large as it is at the completion of the fifth month of utero-gestation. When the patient lay on her back, the medial line intersected the tumour exactly; when she lay on her side, the tumour inclined to that side.

The history of the two preceding attacks, as I shall presently show, proved beyond all doubt that this enlargement was from distention of the uterus with blood. It was proposed, in the first place, to irritate with the finger the os uteri, with the view of bringing on uterine contraction; but the patient could by no entreaty be prevailed with to submit to this, and, consequently, no examination per vaginam could be obtained. Sleep was procured by the exhibition of an opiate, and in the course of a few days, the discharge was entirely arrested by the administration of the super-acetate of lead, combined with small quantities of opium. To give support to the abdomen, a roller was applied tightly round the body.

On the 25th January, 1827, the menstrual discharge re-appeared, and continued four days. It was thick and of a dark colour, but was not fœtid, nor did it contain any clots. By this discharge, the tumour was one-half reduced in size; and, on the return of menstruation at the usual period, the whole of the blood retained in utero was thrown off, rather in a fœtid state; when, on the most minute examination, no appearance of tumour was perceptible above the pubes. Since that time there has been no return of the complaint.

This patient, preceding the first attack in 1820, was bled from the arm on account of pain in her side, and on this hemorrhage from the uterus immediately supervened: the discharge externally was arrested by the application of cold cloths, but blood continued to be poured out internally, as the uterus was soon so much distended as to be in contact with the umbilicus. Anasarca, from the loss of blood, was now general, and the patient appeared to be in a very precarious state. About three months afterwards, menstruation came on, and a good deal of clotted blood was discharged; but the swelling did not entirely disappear till after the third menstrual period. After this her health was soon restored.

It was immediately after menstruation was suddenly suppressed by exposure to cold, whilst it was profuse, that this distention of the uterus occurred the second time. At the end of two months, menstruation again made its appearance, when a quantity of dark coloured blood, in a very fœtid state, was suddenly discharged; and the patient nearly lost her life on account of the profuseness of the discharge, and the distance at which she lived from medical assistance.

There was now no remains of uterine enlargement; but, such was the state of weakness to which she was reduced, along with the anasarcous swellings, which had again supervened, that the re-establishment of her health required great care and a considerable length of time.

In the treatment of this case, there was nothing remarkable, and it is therefore unnecessary to give any detail of it. It was conducted on the principle of preventing, as much as possible, the loss of blood whilst the uterus was in a state of distention; and, after the retained blood was discharged, every means were had recourse to that could give tone to the system. During the distention, nothing was tried with the view of bringing on uterine contraction, except friction and the use of a bandage. For that purpose I proposed to irritate the os uteri with my finger, but it was decidedly objected to. It did also occur to me to try the secale cornutum during the last attack, but none could be procured in this part of the country.

When we reflect on the anatomical structure of the uterus, it is difficult to conceive the possibility of its distention in the manner now detailed; but the facts adduced incontrovertibly prove, in my opinion, that such was the case. As the distention supervened immediately on the sudden obstruction of the menses from the effect of cold, the os uteri, I think, must have been firmly closed either by spasm or a clot of blood, or probably by both. Its mouth being thus shut, the uterus, it would appear, became dilated from the impulse of the internal hemorrhage.

From the London Medical and Physical Journal.

CASE OF TRANSFUSION, *contained in an Extract of a Letter from* Mr. R. P. Philpott, *of Brighton, to* Dr. Blundell. (Communicated by C. Waller, Esq.)

July 21, 1827.—A poor woman, named Ashdown, aged twenty-nine, now in the sixth month of pregnancy, who during three former pregnancies had suffered from varicose veins of the legs, had this day, after standing for some hours at the ironing board of a laundress, a sudden effusion of blood from the bursting of the vena saphena, about six inches above the right ankle.

About a quarter of an hour elapsed before I reached the house where she was, when she had lost, as it seemed, between eight and ten pints of blood. Assisted by my friend Mr. Philipson, I, by compress and bandage, immediately stopped the hemorrhage. The patient was in a state of complete syncope, without pulse at the wrists, and but a very indistinct pulsation at the region of the heart; she was cold, with lips and face completely blanched; a profuse sweat broke out, and she passed both fæces and urine involuntarily, so that she appeared moribund. Stimulants applied to the nostrils produced no excitment, and she had totally lost the power of deglutition. Though with little hope or probability of her recovery, we determined to attempt the operation of transfusion.

A person being quickly obtained from whom blood was drawn, a ligature was applied on the right arm of the patient, the median vein laid bare, and carefully dissected, so that a probe was passed under it; the vein was then opened, and the end of a common bone syringe, (the only one at hand,) with its extremity filed off, was with some difficulty introduced. Several syringe-fulls were thus injected. When about four ounces had been thrown in, she became extremely restless, throwing her head from side to side, and making an effort to vomit. We then desisted, and had the satisfaction of distinguishing the pulse at the wrist, though extremely small and rapid: warmth was applied, and wine and brandy and water administered frequently.

In the evening, six hours after the operation, the pulse was then distinct, and at 120. She was so much better as to answer several questions. Heat was gradually developed, and the next day she was removed in a chaise to her own house.

July 25th.—Slight suppuration became established in the wound in the arm, without the least appearance of inflammation in the vein, although, from the frequent introduction of so rude an instrument, we were afraid the internal coat of the vein might be injured.

30th.—Much better. Has felt no movement of the fœtus since the accident.

August 13th.—She was taken in labour, and in a few hours the fœtus, in a putrid state, expelled. A cool regimen, with light but nourishing diet, and the occasional use of a mild laxative, were the means employed to promote her recovery, and she is now (October 12th) in good health, and following her former avocations.

The ruptured vein in the leg speedily healed, and all trace of the disease has disappeared since her labour. Dr. Blair was kind enough to visit the poor woman several times during her recovery.

From the Medico-Chirurgical Review.

PERITONEAL INFLAMMATION.

Clinique Medicale. Par G. Andral, Fils.

[Hôpital de la Charité.]

In a former number, (No. 11, for Jan. 1827, page 145—161,) we made our readers acquainted with a very able paper by M. Andral, on diseased conditions of the mucous membrane, and muscular coat of the stomach. We now proceed to the pathology of the peritoneum, occupying a considerable portion of the fourth volume of this able pathologist. The diseases of the liver will form a separate article, which we hope to include in our next number.

We have often drawn the attention of our brethren in this country to the pathological investigations of the French physicians, while we lamented the want of means—as well, perhaps, as the want of zeal, in these islands, which has so long and so materially thrown us into the rear in this particular branch of the science of disease. We every day hear it urged, in excuse, that the investigation of diseased structures leads men astray, and makes them mistake effects for causes. Granting that this is the case, it is only the abuse of a good thing. Is there any possible way of connecting with their appropriate symptoms, the origin, progress, and acmé of organic changes in the living body, but by numerous dissections performed at all periods of the disease, from the first disturbance of function to the ultimate annihilation of the same, by structural alteration? We say there cannot be any other mode of acquiring this important information. The ancients were, no doubt, very clever and very correct in noting down the symptoms of diseases, and observing their causes. But they could not possibly have formed correct notions of the conditions of internal organs, of which the symptoms were mere indications;—because they did not examine into these pathological conditions. Their diagnoses were, therefore, mere guess-work, and not founded on accurate data. They must have been much more frequently wrong in their diagnoses than modern pathologists. Let us not then attempt to separate these two branches of medical knowledge—symptomatology and morbid anatomy—for on their perpetual junction and mutual co-operation our prognosis and therapeia must depend. The Frenchman may lean too much on post-mortem investigations—the Englishman may trust too much to the observance of symptoms during life—but the wise man will endeavour to make each process throw light on the other.

With these few preliminary remarks tending to bespeak the attention—perhaps, the patience of our readers, we shall proceed to give some account of M. Andral's researches on peritoneal inflammation.

1. *Acute Peritonitis.*—In the following cases, our talented and indefatigable author wishes to draw attention, *first*, to certain causes which are very generally operative in the production of peritonitis—*secondly*, to the different symptoms which indicate the existence of this serious affection—*thirdly*, to the march of the disease, which, in some cases, is so rapid that only a few hours intervene between the origin of the inflammation and death; while, in other cases, the inflammation, though always acute, will not prove fatal till after the lapse of thirty or forty days.

Illustrations.—Case 1. A boy, 15 years of age, of feeble constitution, a compositor in a printing office, went to work, in his usual health, on the morning of the 30th April. At 2, P. M. he felt a pain in the lower part of the right side of the abdomen, which obliged him to break off from his work. In the course of the night, the pain extended to the hypochondriac and epigastric regions, accompanied by vomiting and great prostration of strength. These symptoms continued the next two days, during which, he lay in bed and drank diluent drinks. On the 2d May, he presented the following symptoms:—face pale, and expressive of great anxiety—eyes dull—sensorial functions undisturbed—abdomen tense, and exquisitely painful on pressure, especially in the right side—frequent vomiting of bilious matters—obstinate constipation—tongue moist and white—pulse rather quick—skin hot and dry. *Venesection to* 12 *ounces*, 30 *leeches to the abdomen—fomentations—lavements.* The blood was inflamed. The pain was somewhat relieved. *May* 3*d.* Twenty leeches were applied to the abdomen. The vomiting ceased this day. 4*th.* All the symptoms were ameliorated; but the abdominal tension continued—hence it was inferred that the inflammation had passed into a chronic state. Simple *ptisans—fomentations—low diet.* That evening he received cold from a window which had been left open, and next day, he was found in articulo mortis, when the physician went round.

Dissection.—There was no appreciable lesion of the cerebro-spinal system, nor in the viscera of the thorax. In the abdomen, the peritoneal covering of the small intestines was remarkably injected, and a considerable effusion of whitish fluid in the hollow of the right ileum and in the pelvis. The stomach, liver, and colon, were covered with white concretions of a membraniform appearance. The mucous membrane of the stomach was pale. The same might be said of the small intestines, except a portion of ileum, near the ileo-cæcal valve, where the lining membrane was injected.

Remarks—The above case presents one of the finest specimens of uncomplicated peritonitis that can well be imagined, accompanied by well-defined symptoms. Here there was no apparent prodrome, or, as Dr. Marsh would say, "latent period," between sound health and violent disease. Pain was the first symptom, at first partial, and then more extended, with vomiting, and alteration of the features—all very characteristic of this dangerous kind of inflammation. The pulse here, as in many other cases, was deceptive, and its action not at all in proportion to the dangerous disease that was going on. The following case presents some curious traits.

Case 2.—A young man, 18 years of age, had enjoyed habitual good health, till the 2d of March, when, without any apparent cause, he was seized with sharp pains in the abdomen, not constant, nor always in the same place. He kept to his room for five days, but took no medicine. On the seventh day of his illness, he came into La Charité, presenting the following symptoms:—face flushed—abdomen distended and tense, without any fluctuation—great sensibility to pressure—pulse small, very quick, and rather irregular—skin hot and dry—tongue coated yellow—constipation. Notwithstanding the time that had elapsed since the invasion of the disease, depletion was determined on, and thirty leeches were applied to the abdomen, to which were added lavements and fomentations. The patient was greatly relieved, the abdomen becoming less tense and painful. Leeches were again applied. For three days the sickness at stomach ceased—and a diarrhœa came on. Still the tension and tenderness of abdomen evinced that peritoneal inflammation was going on. By the 12th day of the disease, the abdomen was considerably distended, and very painful. The hypogastric region was covered with leeches, which reduced the swelling and pain. On the 24th day, the patient demanded his discharge from the hospital, as they did not give him enough of food. He got up and dressed himself, but was unable to leave the institution. The next morning he suddenly expired, being the fifteenth day from the commencement of the symptoms.

Dissection.—The peritoneum was adherent to the convolutions of the bowels, by white and thick layers of recent formation. Beneath these the membrane itself was highly injected. There was considerable milky effusion in the pelvis. The internal surface of the stomach was pale. The same with the intestines. There was no other appreciable lesion in the body.

Remarks.—The above is another case of pure peritonitis, and is remarkable for the craving of food, and the suddenness of the death. These two cases prove, as do thousands of others, that the different tissues may be separately inflamed, though such doctrine is very much scouted by our high-bred routine physicians, who dislike the trouble of accurate investigation and close observation.

Case 3. *Peritoneal Inflammation succeeding Rheumatism.*—In a former volume, our indefatigable pathologist traced several cases of

pleuritis, pulmonitis, and pericarditis, to sudden cessations of acute rheumatism. He observes that it is of little use to cavil about the term *metastasis*, in such cases, provided we bear in mind the fact, that a *sudden* disappearance of articular inflammation is occasionally followed by phlegmasia of an internal organ—and especially the serous tissues of those organs.

Example.—A man, 57 years of age, was received into La Charité, labouring under acute rheumatism, which shifted from joint to joint. *Several venesections* were practised. One day, the rheumatism suddenly ceased in the articulations then affected, and did not assail any of the others. But acute pains were soon felt in the abdomen, which became so violent, that the patient was forced to send forth the most piercing cries. This appeared like *metastasis*, and sinapisms were applied to the articulations originally inflamed, while leeches in great numbers were clustered on the abdomen. Ultimately the patient was put into a warm bath. These means had no good effect—the pain invaded all parts of the abdomen, which enlarged much, and presented fluctuation. Death took place on the third day from the recession of the rheumatism.

Dissection.—As soon as the abdomen was opened a flood of reddish fluid issued forth, containing some floating flocculi. The intestines were intensely red, and adhesions were forming in various places. The effused fluid resembled venous blood, but there were no coagula. There was no affection of the mucous membrane of stomach or bowels.

A curious formation was discovered in the examination of this man. From the fundus of the bladder there went off an oval pouch, which reached and adhered to the duodenum. It communicated with the main body of the bladder by an opening resembling the pylorus. The structure of this pouch or appendix was, in all respects, similar to that of the bladder itself.

We think the most sceptical pathologist will hardly deny that there was here a transference of inflammation from the joints to the peritoneum. We observe that the patient was bled *several times* for acute rheumatism. We are daily astonished and grieved to see the want of discrimination in bleeding for acute rheumatism. The generality of medical men are now getting it into their heads that inflammation is inflammation, wherever seated—however designated; and, consequently, that there is but one class of remedies—venesection and decisive depletion. It is no wonder that, under such routine practice, we see so many examples of metastasis of inflammation to the heart. Another measure which is very generally had recourse to, in acute rheumatism, is the warm, or rather the hot bath. This is a most dangerous procedure. It determines the tide of the circulation strongly to the surface, no doubt—but there is a subsequent retreat of that tide, which often sweeps with it the inflammation from the joints to the interior. Of this we have seen examples which left no doubt on our minds as to the fact.

Case 4.—A curious pathological fact has, in these days of diligent investigation, been pretty fairly established—namely, that irritation or inflammation in the mucous membrane of the duodenum will sometimes produce jaundice, where no obstruction can be detected in the biliary ducts. This fact, we think, will ultimately throw some light on the nature of yellow fever. The following is an instance of this kind.

A female was confined, and the delivery was followed by profuse hæmorrhage. This was combated by cold applied to the hypogastrium, and by the introduction of *lemon juice into the cervix uteri*. On the fourth day, the lochia became suppressed, and the abdomen became the seat of severe pain. She was admitted into La Charité, her belly immensely distended and tympanitic, and accompanied by fever of the puerperal kind. Leeches and the usual means were employed, but without advantage. Next day she became completely jaundiced—and on the 3d day of the present illness she died.

Dissection.—Great quantities of gas were confined in the intestines—these last were covered with albuminous effusions—and whitish puriform secretions were collected in the pelvis. The mucous membrane of the stomach was pale; but that of the duodenum was inflamed. On minute examination, no affection or obstruction of the liver or its ducts could be detected. The internal surface of the uterus was inflamed.

Dr. Andral thinks that the tympanitis may have occasioned the peritonitis. But extrication and accumulation of air in the bowels are such usual attendants on peritoneal inflammation, that we can hardly regard it in any other light than as the *effect* of the inflammation.

Here we must quit the subject of *acute* peritonitis. The symptoms of this dangerous disease are nearly as unequivocal as those of any other inflammation, though the treatment is more difficult. It is chronic inflammation of the peritoneum which produces such havoc, and which so generally passes undetected till it is too late for remedy. There are many cases of chronic peritonitis, where the disease goes on to fatal effusion—to tuberculation—or to adhesion of the intestines into a mass, and yet no *pain* may have been complained of at any period of the disease. More generally, however, chronic, is a sequel of acute peritonitis. We shall be able to introduce but two or three cases, offering peculiar features, before we close this article.

Case 5.—A tailor, 24 years of age, was seized with abdominal pains, in the beginning of December, attended with diarrhœa. He kept his room for three weeks, and then came into La Charité. The abdomen was distended, and fluctuation was obscurely perceptible. The diarrhœa continued—the tongue was red at the point—vomiting—quick pulse—cough. Auscultation and percussion could detect no disease of the lungs; but they had no doubt of

inflammation, both of the peritoneum and mucous membrane of the bowels. *Leeches, fomentations, low diet.* During the next four or five days there was no diarrhœa, but the symptoms of peritonitis continued. During the remainder of January, the abdomen got larger, the pulse very quick, and the skin dry and rather hot. In the beginning of February, the cough increased, and some oppression was felt. The chest, however, sounded well, and the respiration was heard throughout, without any wheeze. He died, exhausted, on the 15th February.

Dissection.—The abdominal parietes were strongly adherent to the intestines—and there was an effusion into the abdomen, of a brown colour and fæcal odour. The small intestines were glued together, and covered with false membranes, which membranes were studded with tubercles. Beneath these membranes, the peritoneum was found of its natural colour and structure. Between the peritoneal and mucous membranes, a number of tubercles were developed, some of which were softened down, and had burst through the peritoneal covering. Within a few inches of the ileo-cæcal valve, the coats of the ileum had given way, and there existed a perforation. The mucous membrane of stomach and bowels was pale and healthy. There were some crude tubercles at the summit of each lung—and the pericardium was adherent to the heart by a thick layer of false membrane, studded with tubercles.

Remarks.—The above is a very well marked case of tuberculated accretion of the serous membranes, with effusion—all, no doubt, the consequence of chronic inflammation. This case also presents a specimen of perforation of the intestine, proceeding *from without inwards*, and caused by the softening down of tubercles. The following is another striking example of the ravages which chronic peritonitis is capable of effecting before death.

Case 6.—A shoemaker, aged 19 years, experienced, in the month of May, some acute pain in the abdomen, which did not, however, prevent him from work for some days. At last he took to his bed. There was pain on pressure, but no vomiting or diarrhœa. There was cough and fever every evening. In July, there came on a diarrhœa, and, on the 12th August, he entered La Charité. His face was pallid and swelled—some œdema of the ankles—pain about the umbilicus augmented by pressure—belly rather tumid and presenting fluctuation—three or four liquid stools daily—slight cough—quick pulse—morning perspirations—great emaciation of the thoracic parietes and the arms. In the course of the month of August, a strict regimen and fomentations entirely relieved the pain; but the cough increased—the diarrhœa continued—the perspirations became more profuse—the debility and marasmus made rapid advances, and the patient died on the 31st of the same month.

Dissection.—There were several ounces of serum in the pericardium, the heart itself being apparently sound—superior lobe of the left lung converted into a tuberculated mass, leaving scarcely a trace of parenchymatous structure. Numerous tubercles in the rest of the lungs. In the abdomen, a considerable quantity of yellow serum—epiploon greatly indurated and tuberculated—intestines glued together by false membranes, these membranes being studded with tubercles—internal surface of the stomach pale, except near the pylorus, where it was discoloured—an ulceration close to the ileo-cæcal valve above—and one or two below that apparatus. The valve itself was ulcerated, and a complete *perforation* of the coats effected.

The above case offers an instance, to which the attentive practitioner would often find parallels, where ulceration of the intestines takes place, attended with so little pain, that the disease would not be at all suspected. We believe, indeed, that in the present state of our knowledge, there is really no pathognomonic sign by which we can ascertain the existence of this dangerous—generally fatal malady! This uncertainty, however, should put us on our guard against that system of drastic purgation, now so indiscriminately put in practice by *routinists*, without thought or consideration.

Here our review of M. Andral's work must terminate, for the present. The work abounds with ample illustrations of abdominal inflammation, drawn from the clinical practice of a public hospital. They are highly deserving of attention. We are gratified to observe that, in all our medical discussions, in the various societies of this metropolis, the subject of pathology, as cultivated by our continental neighbours, is now exciting universal interest, and that what we have long urged in this Journal, is confessed with one voice—the superiority of continental pathology over that of this country. It is humiliating to observe the sneers with which our fashionable physicians, in this metropolis, regard the study of pathology. Dr. Hodgkin, in his paper on Medical Education, lately read and discussed at Guy's Hospital, alluded to the disgraceful fact, that —in the theatre of the Royal College of Physicians of London, a systematic attempt was made to depreciate the study of morbid anatomy! Such a fact will place us in a pretty light on the Continent! But we trust the present, and especially the rising generation, will wipe off this foul disgrace to science, and prove that Englishmen, when once aroused, will evince that native energy so strongly inherent in them, and show that they are not to be outdone in any pursuit, where the health and comfort of their countrymen are concerned.

From the Revue Medicale.

DROPSY OF THE KNEE, CURED BY PUNCTURE.

M. Villette was consulted, October 6th, 1826, for a tumour situated above the left

knee. The swelling was divided by the tendons of the muscles inserted into the patella, into two portions, of which the internal was the larger; the integuments preserved their natural appearance, and a distinct fluctuation was perceptible. From the previous history of the case, and the indolent character of the swelling, M. Villette was induced to suspect an accumulation of synovia in the joint, and directed the frequent application of cloths wet with a solution of the acetate of lead. On the following day, there was an increase in the temperature and tumefaction of the part, and some degree of pain was felt in the articulation. Frictions, with a fourth of a drachm of mercurial ointment, were directed morning and evening.

Oct. 8. There was little perceptible alteration in the size of the swelling, but towards evening the heat became almost insupportable; the pain extended along the sartorius to the groin, and the patient complained of a troublesome pulsation in the interior of the joint. The mercurial frictions were discontinued, and a large cataplasm with laudanum directed to be applied. 9th. The patient had been unable to sleep during the night, being tormented with severe and deep seated pains in the limb, these, however, left him towards morning; and upon examination at that time, the preternatural heat of the limb was found to have entirely disappeared. Three blisters were directed to be applied in succession around the patella. Notwithstanding these measures, the extravasation continued, and on the 12th, M. Villette yielding to the importunities of his patient, who threatened to make an incision into the joint himself, if an operation were longer deferred, introduced a trocar into the superior part of the tumour, and drew off eight ounces of fluid, possessing all the characters of synovia. The edges of the wound were carefully closed, and a compress and bandage applied.

13th. The swelling had almost re-acquired its original size, and though the knee was somewhat less painful than before, he complained greatly of pain in the hip joint. The compression was continued, and ice directed to the limb. On the 15th, the tumour having rather increased than diminished, it was decided to repeat the puncture, and five ounces of fluid, resembling that drawn in the first instance, flowed from the opening. Frictions with concentrated acetic acid were immediately made upon the knee, and it was afterwards enveloped in a large sinapism, which produced so much irritation as to require its removal after three quarters of an hour; it was re-applied in the evening, and continued twice that period.

October 16th. The patient had passed a tranquil night; the fluid had re-accumulated to a slight degree, and the skin, though very red, was much less sensible than before. A cathartic was directed, and on that and the succeeding day, two other sinapisms were applied. The catharsis was repeated on the 18th, with a view to the transfer of the inflammatory action; at this time the motions of the limb were quite free, and although a slight fluctuation was still perceptible, the pain had entirely disappeared; a repetition of the sinapism was directed, and M. Villette discontinued his visits, recommending the patient to continue the compression, and from time to time to renew the irritation on the surface by means of the mustard. None of these directions were attended to, and when M. Villette saw him again on the 31st, the effusion had returned to a considerable extent. Recourse was again had to the sinapisms, and with such effect, that by the following morning, the effused fluid was completely absorbed. Great pain however was still felt in the interior of the articulation, and the patient was unable to bear the least pressure upon the affected limb, without sending forth piercing cries. The warm bath, cataplasms, &c. were prescribed, and by the 4th November, the patient was entirely cured.

From the Journal des Progres des Sciences et Institutiones Medicales.

POISONING BY NITRIC ACID.

A young man, aged 18 years, of a very robust constitution, attempted suicide by swallowing two ounces of the nitric acid of commerce. He was immediately seized with burning pain of the fauces and epigastrium, which rapidly increased in intensity, and was followed at the expiration of fifteen minutes by vomiting and the discharge of a part of his breakfast, which he had eaten a short time previously. M. Leuret was sent for, and succeeded in persuading the patient to swallow two ounces of calcined magnesia, diffused in a large quantity of water; the first dose was given about twenty-five minutes after he had taken the acid. Deglutition, which was at first difficult, soon became more easy, the mouth was of a white colour, but not painful, and the pulse was slightly increased in frequency. Half an hour after the administration of the magnesia, the vomiting returned, consisting at first of a yellowish white matter, aliment, and subsequently a thick fluid of a brick red colour. The first efforts were accompanied by violent pain, and a state of indescribable anxiety, but these symptoms soon disappeared, and at the end of two hours, pressure upon the epigastrium produced scarcely a slight sensation of uneasiness; acute pain, however, was felt in the umbilical region, and the patient complained of coldness over the whole body. A warm bed was prepared for him, thirty leeches were directed to the abdomen, to be followed by emollient cataplasms, mucilaginous beverages, and enemata composed of a decoction of mallows. *Evening.* The vomiting still continued, but the pain was less intense; the patient had drank much, and appeared to be relieved by each repetition of the enema; the pulse was

somewhat elevated, and the epigastrium had again become painful. *V. S. was directed to the extent of six ounces, and twelve leeches to the epigastrium.*

Second day. The general condition of the patient is improved; the pain in the epigastric and umbilical regions is less acute; there is greater freedom of respiration, and less thirst than before; the vomiting of the brick coloured fluid occurred frequently during the night, and the same matter was perceptible in the alvine evacuations. The ptisans and enemata were continued, and linseed poultices were applied to the throat and abdomen; during the day, there was a slight accelleration of the pulse, the throat became extremely painful, and bile was contained in the matter ejected by vomiting. *Twelve leeches were directed to the throat.*

Third day. There is a still greater melioration of all the symptoms; the pain in the epigastric and umbilical regions is felt only occasionally, and several slight attacks of colic have been relieved by the enemata; detachment of the epidermis has commenced on the sides and extremity of the tongue, and in the matter ejected from the stomach several portions of a membranous appearance are visible. Toward evening, the pulse increased in frequency, attended with an augmentation of thirst; the pain in the throat still continues severe, and the epidermis is entirely detached from the tongue, leaving this organ red but not painful. *Ten leeches to the throat.*

Fourth day. The pain was much diminished by the application of the leeches, and the patient slept nearly the whole night; there is no pain in the abdomen, the respiration is quite free; the patient complains only of nausea and a bitter taste in the mouth; the pulse is slightly accelerated, thirst, &c.; this favourable state continued throughout the day.

Fifth day. During the night, the patient had a copious alvine evacuation of brownish matter, and vomited in considerable quantity the brick coloured fluid already mentioned. From this period convalescence advanced apace, the various functions were successively re-established, and by the eighth day, the cure was considered as having been accomplished.

From the Journal des Progres des Sciences et Institutions Medicales.

NON-MERCURIAL TREATMENT OF SYPHILIS. (Communicated by M. Ganther.)

Dr. Fricke, of Hamburg, after a long series of experiments made in the general hospital of that place, has at length published the results of his observations on the non-mercurial treatment of this disease. The regulations of that hospital particularly adapt it for observations of this nature; the venereal patients are long subjected to the examination of the physician, and he is consequently enabled to ascertain with more correctness than he could otherwise do, the frequency of secondary symptoms. With some slight modifications, the method of treatment adopted, was the same with that recommended by Dr. Thompson of Edinburgh. In every instance, venesection to the amount of from six to eight ounces, or more, according to circumstances, was prescribed, and repeated, if the plethoric condition of the patient, local inflammation, &c. rendered it necessary. Saline laxatives, a rigorous diet, and repose in a horizontal position, were deemed indispensable to a perfect and speedy cure. The local treatment of chancres consisted in the frequent application of linen, wet with a solution of acetate of lead, which was afterwards changed for the sulphate of zinc, two grains to six ounces of distilled water, and finally, when the ulcer had been brought to a proper condition, lime water and the black lotion were substituted. If these applications occasioned too much irritation, they were still further diluted, or recourse was had to those of a milder character. When the chancres were complicated with phymosis, ulceration and œdema of the prepuce, corrosive sublimate in the proportion of from one and a half to two grains, in six or eight ounces of water, was employed, and the vitriolic solution was injected between the prepuce and glans. The resolution of buboes was attempted by means of compression, and this plan often succeeded even when suppuration had already taken place; where it failed, the bubo was opened, and its cavity dressed with lint, moistened in one of the above mentioned solutions; if cicatrization advanced slowly, a digestive ointment was used, or the ulcer was touched with the nitrate of silver. The bistoury was also employed to remove excrescences; in some instances, corrosive sublimate or other caustics were preferred;—the wounds left by their removal were treated as common chancres. If the disease did not yield to the treatment above indicated, and especially if it appeared to augment, mercury was exhibited in minute doses, and generally produced a prompt alleviation of the symptoms. Dr. Fricke rarely employed the decoctions of sarsaparilla, guaiacum, and other sudorific beverages. In support of this method of treatment, it may be alleged, 1st. That the primary symptoms were more speedily cured, than by the employment of mercury. 2d. The unpleasant consequences sometimes occasioned by that mineral were avoided; and 3d. The cicatrices presented generally a better aspect.

It was observed, 1st. That the ulcers generally healed sooner in females than in males; a circumstance accounted for by their earlier admission into the hospital, their more attentive observance of the commands of the physician, and the less frequently complicated state of the disease; females, moreover, rarely presented more than two chancres, while in males they generally exceeded that number, and the employments, habits, &c. of the latter, rendered them more liable to inflammation.

2d. The quickness of the cure did not so much depend upon the number of chancres, and their well marked syphilitic character, as upon their situation, the attending inflammation, and the constitution of the patient. Ulcers with a brownish base, reverted edges, and those also seated near the orifice of the urethra, and upon the frenum, generally healed slowly. The occurrence of gonorrhœa during the inflammatory period, arrested the progress of the chancres; they advanced, on the contrary, more rapidly during the flow of the catamenia.

The secondary symptoms have not, in every instance, been treated in this manner; it has been successful, however, in the small number who have been submitted to it. In one case, ulceration of the throat was cured in five days, and in two others at a somewhat longer period. In females, chancres of three or four lines in diameter, generally healed in the space of from seven to twenty-one days. In the other sex, they most commonly remained stationary from fourteen days to a month, unattended, however, with pain; after that period, they gradually became cleaner, healthy granulations formed upon their surface, and the cure was completed in ten or fifteen days. Some degree of induration occupied the situation of the chancres, but this speedily disappeared, and the cicatrices were scarcely perceptible. Buboes after having been opened, generally healed slowly, suppuration ceased, the margins of the ulcer became indurated and assumed a bluish aspect; the granulations were large, florid, and presented the syphilitic tint. In about three weeks, the cavity began to diminish by the approximation of its edges; the granulations assumed a healthy appearance, and traces of a simple incision, were all that remained after its cicatrization. The observations upon tubercles have been too limited to determine positively, whether they would return after having been removed by the scalpel, as ordinarily happens, notwithstanding the internal and external use of mercury; in several instances, three weeks have elapsed without their re-appearance. Such are the results obtained from the general hospital at Hamburg. In relation to consecutive symptoms, observations still require to be multiplied, in order to enable the reporters to form any satisfactory conclusions. Greater difficulty is stated to attend this mode of treatment in males than in females, by reason of the more refractory dispositions of the former, which induce them sooner to demand their discharge; the greater number too, are either sailors or travelling labourers, so that they are not often seen after having been discharged cured of the primary symptoms.

M. Ganther terminates his report with the hope, that the German physicians, whose industry and love of truth are so well known, will devote themselves to the investigation of the merits of this plan of treatment, either to the exclusion of every other, or associated, as has been done by Dr. Fricke, with minute doses of mercury.

From the Medico-Chirurgical Review.

CASE OF EMPHYSEMA OF THE SUBSTANCE OF THE HEART; WITH OBSERVATIONS ON VALVULAR DISEASE OF THE SAME ORGAN.

A very curious case of this rare disease came lately under the care of Mr. Morrah, of Sloane street, and was attended by that gentleman and Dr. Johnson. The patient was a captain in the Royal Navy, aged about 52 years, who had met with some misfortunes a few years ago, and afterwards began to evince symptoms of disordered action of the heart, namely, dyspnœa on going up stairs, and irregularity of the pulse. These symptoms gradually increased, till, at length, he was confined to his bed-room, though never to his bed. About four months ago, when examined carefully with the stethoscope, the heart was found to beat over a large space, and to be very tumultuous and irregular in its action. The whizzing sound was also very audible, when the ventricles contracted. The contraction could frequently be heard through the stethoscope, when no corresponding pulse was felt at the wrist. Thus, when not more than 50 or 60 strokes of the pulse could be enumerated, and those very irregular, there might be heard 70 or 80 contractions of the ventricle. The respiration was audible in all parts of the chest, except in the region of the heart, which occupied a large space, and consequently prevented the breathing being heard in that quarter. At this time, there were alternate paroxyms of dyspnœa and calm breathing, the intervals varying from a few minutes to as many hours. The night, however, was very distressing, as he could not lie low in bed, and his sleep was disturbed by startings and sense of suffocation. There was nothing very particular in the other functions. His dyspnœa was generally relieved by bleeding, local or general, with blisters, aperient medicine, and low diet.

The diagnosis was, enlargement of the heart, and imperfection of the valvular apparatus, without any material affection of the lungs. For two months before this unfortunate gentleman's death, his sufferings were very great, especially in the night. His time was passed in alternate paroxysms of dyspnœa, threatening every moment his life, and then sudden sessation of the attack, with an interval of *complete freedom from all dyspnœa.* It was very curious to observe that the interval (for more than a month prior to death) was almost invariably twice as long as the paroxysm. Thus, if the dyspnœa lasted five minutes, the patient had a complete immunity for ten minutes afterwards. The accessions were, like the cessations, *instantaneous.* He would be conversing quietly with his wife, his children, or his medical attendants, and in the very midst of a sentence, or even of a word, he would be seized with such a panting for breath, that a stranger would suppose he was in articulo-mortis. Equally sudden and abrupt would be the termination of this terri-

ble conflict; and then he would take up the sentence or the word where it had been interrupted by the paroxysm.

Towards the close of the scene—that is, for the last three weeks of the patient's life, there were evident symptoms of effusion in the chest, as well as œdema of the lower extremities. Then the respiration could not be heard below the middle of the thorax, in the perpendicular position, though it was quite audible all round the superior parts of the chest. He suddenly expired while conversing with his daughter, in one of the intervals of dyspnœa, on the 23d of October, as he was sitting in his arm-chair. The body was examined on the 24th, by Mr. Morrah, Dr. Johnson, and Mr. Stevenson, of the Edgeware Road.

There was very considerable effusion, amounting to several pints, in the two sides of the chest. The heart was nearly three times its natural size—all its cavities being greatly dilated, but its parietes not being increased in proportion. The auricles were nearly of their natural thickness, though their cavities were considerably augmented. The right ventricle was passively enlarged. Its parietes were thinner than natural, though its cavity was more than double its proper size. The cavity of the left ventricle was also more than double its usual dimensions, but the parietes presented certain remarkable appearances. In some places, they were full an inch in thickness—in others, not a quarter of an inch. Near the apex of the left ventricle, the muscular structure was white, and condensed into a substance almost as firm as ligament. Between this and the basis of the ventricle, there were some portions of the walls not more than a fifth of an inch in thickness. The basis of the ventricle, on the contrary, presented parietes full an inch in thickness—but this thickened portion was every where emphysematous, and air could be pressed from it, with a crackling noise, exactly as from a piece of lung. By firm and continued pressure these thickened parietes could be reduced to less than half their dimensions, when the air was completely expelled.

The openings between the auricles and ventricles, on both sides, were greatly enlarged. The auriculo-ventricular opening, for instance, on the left side, was at least an inch and a half, or two inches, *in diameter;* and, as the mitral and tricuspid valves showed no increase of dimensions, it was manifest that the functions of these valves were very imperfectly performed. When the left ventricle, for example, contracted, a great portion of the blood must have passed back into the auricle, from the inability of the mitral valve to cover the auriculo-ventricular opening. This would satisfactorily account for the pulse at the wrist not always being felt in correspondence with the ventricular contraction, as heard through the stethoscope. The same imperfection must have existed in the right side of the heart. The right ventricle, instead of throwing its blood completely into the pulmonary artery, ejected a portion of its contents back into the auricle. Thus the venous blood from the larger circulation was retarded, and eventually led to dropsical effusions; while the blood returning from the lungs to the left side of the heart must have experienced great interruption, and, consequently, the vessels of the lungs were kept in a state of congestion.

The emphysema of the parietes of the left ventricle cannot be accounted for on any known principle of the animal economy, but the fact is undeniable. The lungs themselves were crepitous, and sound throughout.

In respect to the tumultuous noise which was heard in this case, through the stethoscope, it resembled more the noise of churning, than that which has been compared to the purring of a cat—the stroke of a saw—or the blast of a small pair of bellows, by Laennec and others. There can be little doubt that it was produced by the regurgitation of blood from the ventricles into the auricles, at each ventricular contraction, owing to the inability of the mitral and tricuspid valves to close completely their respective auriculo-ventricular openings. To render imperfect the office of the valves of the heart, it is not necessary that they themselves should be indurated, puckered, or otherwise changed in structure. If the opening which the valve is designed to cover be unnaturally dilated, the same effect will be produced as if the valve were ossified or contracted; and this is a pathological condition which is often overlooked. On examining very carefully those hearts which have been morbidly dilated in their cavities, whatever was the condition of the parietes, it appeared to the writer of this, that the valves were almost always incapable of effectually covering their respective apertures, and, therefore, that the circulation of the blood through the heart was imperfectly carried on. If the *right* chambers of the heart be much enlarged, and the valvular apparatus be consequently damaged, there will be no irregularity of the pulse, for that depends entirely on the *left* ventricle; but there must, in such a case, be great derangement of the general venous circulation, and the ultimate tendency to serous effusion will be consequently established, however regular the pulse may be at the wrist. If, in such cases, we could feel the pulmonary artery, we would find intermissions of pulsation there. When the left chambers are dilated, and the valvular function impaired, the venous system of the lungs must necessarily be kept in a loaded state, and hence the dyspnœa which invariably attends this pathological condition of the heart. Hence, too, the temporary relief, which the breathing experiences from bleeding, and other kinds of depletion.

From the Medico-Chirurgical Review.

REMARKABLE DISEASE OF THE EPIPLOON.

The following melancholy case is recorded by Dr. Strambio, in an Italian journal, (*Annali di Med.*) with the appearances on dissection.

A young woman, 18 years of age, after enjoying herself at a carnival ball, began to complain of pains in the right side of the abdomen, which increased in size, and led to the suspicion that she was pregnant. Various medicines were ineffectually administered, and when M. Strambio was consulted, the patient presented the following phenomena:—face pale—pulse hard and frequent—skin burning hot—vomiting when food was taken into the stomach—abdomen large, but more so in the right than in the left side. On examination, several indolent tumours were felt, which were not painful unless strongly pressed. The left mamma was shrunk, and the right more enlarged than natural, as well as hard. There was supposed to be inflammation of the stomach, and depletion was practised, locally and generally, with fomentations, &c. It was found that a tumour pressed on the rectum, and prevented the introduction of a pipe, or the finger. All the symptoms increased in severity, and hydrothorax supervened, with infiltration of the left lower extremity. Death soon took place.

On dissection, a large effusion was found in the chest, and also in the pericardium. The omentum, detached from the viscera to which it naturally adheres, was degenerated into an elastic substance, resembling brain rather than fat, occupying the whole of the abdomen, and disposed into masses of various sizes, connected by prolongations of the original omentum or membranous stripes. The left kidney, the spleen, the abdominal aorta, the rectum, the ovaries and the uterus, were involved in this morbid mass. The other organs were unaltered. The disease was considered to be caused by a chronic phlegmasia of the epiploon, excited by a fall which the young woman had experienced about a year before her death.

From the Edinburgh Medical and Surgical Journal.

Notes of a Case in which the Canal of the Larynx, after being nearly obliterated, was re-established. By Robert Liston, Esq. Surgeon, Lecturer on Surgery, &c.

Elizabeth Oswald, æt. 27, in attempting suicide in September, 1826, had wounded the larynx through the crico-thyroid ligament.

She was under treatment for some months, and was at length abandoned with the loss of voice, and breathing entirely through a silver tube introduced in the situation of the original wound. On withdrawing this tube, and examining the parts attentively, a very minute orifice, capable of admitting the point of a probe of half the usual size, was discerned leading towards the glottis.

About April 15, 1827, Mr. Liston saw her by the request of Mr. Sidey, who had attended much to the case from the first, and began to introduce bougies about the size of darning needles into the part of the trachea above the wound; and by gradually increasing the size of the bougies the passage was brought about the end of June to its natural diameter. About the middle of August the lower part of the trachea was dilated by a tube gradually increased in size, so that one of sufficient diameter might be passed by the mouth.

Three weeks afterwards the short tube was removed, and a long one was introduced by the wound up into the mouth, there laid hold of and pushed down into the trachea. This was followed by a very severe fit of coughing, which lasted about half an hour.

This tube, which was about nine inches long, and equal in diameter to that of the largest œsophagus tubes, was retained in the windpipe for fifteen days, during which it caused great salivation, which loosened the teeth and extremely reduced the strength of the patient. In consequence of this it was necessary to use some active means for the closure of the wound. On the fifth day the cicatrix was dissected out by two elliptical incisions, and the edges of the wound united by suture. The tube being removed on the fifteenth day, (October 5th,) she breathed well. In the morning, however, her breathing became very difficult, and *tracheotomy* was performed, and a silver tube introduced, which was kept in five days, and then replaced by a smaller one.

The actual cautery was applied to the edges of a small sinus, which remained on October 17th; and on the 26th it was re-applied to the opening, which had very nearly closed. On the 28th the tube was removed; and a few days after the wound was completely closed. The woman now breathes with comparative ease through the larynx, and is slowly recovering the use of her voice.

From the Edinburgh Medical and Surgical Journal.

STRICTURE OF THE LACHRYMAL DUCT. By Thomas Pridgin Teale, Esq. Surgeon to the Leeds Public Dispensary.

During my attendance at the Hôtel Dieu in 1823, I was highly gratified by the success of M. Dupuytren's treatment of stricture of the lachrymal duct.

In the operation adopted by that distinguished surgeon, the use of the canula of Foubert and Wathen has been revived; but their mode of operating has been considerably modified and improved the operation of M. Dupuytren, consisting simply of inserting into the lachrymal canal a metallic tube, over which the integuments are to be healed. The general success attending the operation was such as particularly to arrest my attention; but I am unable from my own observation to state the average number of cases in which it proved successful. M. Dupuytren, however, states the result to be favourable in nineteen cases out of twenty.

Although by reasoning upon the subject we may be unable to conceive "how a metallic tube can be expected to form a substitute for the natural duct, an inorganic in lieu of an or-

ganized part, in perpetuity," * yet, when experience is opposed to speculation, the latter should certainly be abandoned.

Various measures have been at different times adopted for relieving this disease; but all of them have proved more or less unsatisfactory.

The antiphlogistic treatment in favourable instances frequently relieves the thickened state of the membrane lining the duct, and the passage for the lachrymal secretion sometimes becomes restored. But this plan of treatment often fails to relieve the obstruction, even when pursued for a considerable length of time; and in those cases where it proves successful, the progress of the cure is often tedious, and requires considerable patience and perseverence both on the part of the surgeon and his patient. The various methods devised for dilating the passage by probes and other mechanical contrivances, and for re-establishing the canal by setons, are objectionable, from the frequent failures which occur, and from the repeated operations which many of them require. The employment of the nail-headed style, which probably is the operation most frequently adopted by British practitioners, is likewise attended with considerable trouble and inconvenience. In the early days of its employment, the removal and re-insertion of the style, which from time to time is necessary, cause considerable annoyance, if not pain to the patient; and even when the final result is favourable, permanent deformity is produced either from the establishment of a true lachrymal fistula, or from the instrument being visible at the inner angle of the eye.

Over these different methods of treatment the operation of M. Dupuytren, although not entirely free from objection, nor invariably successful, possesses, in my opinion, numerous advantages.

1st, In the facility of its performance.

2dly, In the immediate and complete relief of the disease, at least in an immense majority of cases, M. Dupuytren stating (as I have before observed) the result to be successful in nineteen cases out of twenty.

3dly, In the prevention of any permanent deformity, it being nearly impossible in most instances to discover on which side the operation has been performed.

The operation which I am about to describe is undoubtedly well known to numerous British surgeons, and is probably practised by several. But as it is far from being generally adopted, or even known to the greater part of the profession, I have been induced to draw up the following description of it, and to lay before the public the result of the few cases in which I have adopted it.

The instruments employed in the operation are a common French bistoury, a canula of silver, gold, or platina, and a *porte-canule*, to which the canula is affixed for being more conveniently inserted in the lachrymal passage. The length of the canula is one inch; its upper opening measures one-tenth of an inch; the tube gradually tapers from its upper to its lower opening, the diameter of which measures one-twentieth part of an inch; the lower opening is placed obliquely, and the upper opening is surrounded by a small rim to prevent its sinking too low into the duct.

The following is the manner in which the operation is performed. The patient being seated in a chair, rests the head against the breast of an assistant, who fixes the head by a hand placed over the ear and temple on each side. The operator (supposing the left eye to be operated upon) stands in front of the patient, and a little to the left side. With the index finger of the left hand he puts the integuments at the inner angle of the eye upon the stretch, for the purpose of rendering the tendon of the *orbicularis palpebrarum* more evident, at the same time that the assistant who holds the head stretches the integuments at the outer angle of the eye. The lachrymal sac is then to be punctured by the point of the bistoury being inserted immediately below the tendon of the *orbicularis palpebrarum*. The direction in which the instrument should be inserted is nearly vertical, the handle inclining slightly to the opposite side, and a little forwards, on account of the projection of the eyebrow, the edge of the blade being directed obliquely downwards, or towards a point situated midway between the angle of the mouth and the pinna of the ear, this being the direction which admits of the bistoury being insinuated to the greatest extent down the lachrymal canal. The puncture being made, the bistoury is allowed to remain as a director, and the operator taking in the left hand the porte-canule, armed with the canula, gently insinuates the tube along the side of the bistoury into the lachrymal canal; the bistoury is then withdrawn; slight pressure is made upon the upper part of the canula, so as to cause it to be completely imbedded in the canal. The operation now being completed, the patient is directed to blow down the nose at the time that pressure is made upon the nostrils, by which the tube is freed from any blood that may have accumulated in it, and the air issues out at the incision, showing the free communication that is established between the nostril and the sac.

Case I. February 1827.—Martha Soward, æt. 25, has been long troubled with severe attacks of inflammation of the lachrymal sac, and in the intervals has suffered much inconvenience from the epiphora which remained. At present the sac is distended; the integuments inflammed, and conjunctiva red. Slight relief has occasionally been procured by the application of leeches, wet cloths, and fomentations, and by the use of aperient medicines. For the last few weeks the same treatment has been adopted, but with less relief than usual.

February 11.—Canula inserted.

12.—Considerable swelling and pain in the lower eyelid and cheek. Ordered to apply leeches and fomentations, and to take a dose of senna and Epsom salts.

* Travers's Synopsis.

16.—Inflammation diminishing.

21.—Swelling subsided; conjunctiva less inflamed than it has been for weeks previous to the operation; the tears continue to flow over the cheek.

27.—She still experiences slight attacks of inflammation, and the tears flow over the cheek. From these circumstances I supposed the tube must have been obstructed. The tube was consequently removed and a fresh one inserted.

May 20.—She feels no relief from the second operation; the ophthalmia occurs with its former violence and frequency, and the epiphora remains undiminished; the head of the tube is protruded upwards against the cicatrix. An incision was now made into the sac, and the tube extracted without any difficulty. The patient has since left the town.

I believe the employment of Ware's style would in this case have been equally unsuccessful, from the great irritability of the parts.

Case II. February 1827.—Mary Hudson, æt. 30, four years ago suffered from inflammation of the left lachrymal sac; suppuration took place; the matter was evacuated by puncture, and the wound closed in about nine months. Since the commencement of the attack the tears have continued to flow over the cheek, and the sac has repeatedly become distended. The principal inconvenience of which she complained was the dimness of vision which frequently occurred from the excess or accumulation of the lachrymal secretion on the globe of the eye and between the palpebræ.

Feb. 20.—Tube inserted.

21.—Wound united; slight swelling of the lower eyelid.

24.—Swelling subsided; wound healed; tears flow down into the nostil; she feels perfectly relieved of the annoyance she has so long experienced.

October 11, 1827.—She has continued perfectly free from inflammation and epiphora since the operation.

Case III. May 1, 1827.—James Smith, painter æt. 39, has been troubled with watery eye during seven or eight years. During the last two years there has frequently been a tumour at the inner angle of the left eye, which for three months has been permanent, and sometimes as large as a small nut. The watering of the eye has caused him much inconvenience, and when employed in his business he is repeatedly under the necessity of wiping the tears from the eye and cheek to prevent the dimness of vision which the presence of the tears occasion.

May 1.—Canula inserted.

2.—Considerable swelling of lower palpebra and cheek; slight pain. Ordered to apply rags wet with cold water, and to take an aperient.

6.—Swelling entirely subdued; dimness and watering perfectly relieved.

October 11.—Has not experienced the slightest inconvenience since the insertion of the tube. On showing him to-day to some medical friends, they were unable to say on which side the operation had been performed.

Case IV. September 11, 1827.—Hannah Proctor, æt. 27, has had obstruction of the left nasal duct during six months, and has suffered great inconvenience from distention of the sac and dimness of vision.

September 11.—Tube inserted.

13.—Wound healed; no swelling; epiphora relieved.

18.—Continues perfectly well.

Case V. September 19, 1827.—Mary Dixon, æt. 72, had inflammation of the left lachrymal sac nine months ago, and since that time the tears have constantly flowed over the cheek. She has suffered considerable inconvenience from frequent attacks of ophthalmic distention of the sac, and dimness of vision. The sac has never suppurated,

September 19.—Canula inserted.

21.—Slight redness and swelling of lower eyelid; dimness of vision and epiphora perfectly relieved.

26.—Inflammation quite subsided. She expresses her gratitude in the warmest terms for the relief she has obtained.

GANGRENE OF THE LUNGS.

The following case of this disease we find in the Revue Médicale, reported by M. Martinet from the Hôtel Dieu.

A man, 45 years of age, of a robust constitution, was attacked about the end of March, 1827, with a pleuropneumony of the right side, which being relieved by an appropriate treatment, permitted him to recur to his ordinary avocations. Towards the middle of May, he perceived an acute pain near the lower part of the sternum, which after a few days was attended with cough and an expectoration of sanguineous sputa, that soon became excessively fetid. Pain in the right side of the thorax accompanied with fever, next made its appearance; and the disease continuing its progress uninterrupted by general and local depletion, the patient applied for admission into the Hôtel Dieu on the 6th of June. The following were the symptoms then presented. Cough, attended with copious expectoration of a brownish matter, of an infectious, pungent and metallic odour; breath excessively fetid even to the patient; respiration generally profound, but accelerated by the cough. The air permeates readily the right lung, with the exception of a part in the vicinity of the superior angle of the scapula, where it appears to pass through a larger channel, and a mucous râle is occasionally perceptible; these phenomena were not observed in the corresponding portion of the left side. Thorax generally sonorous, somewhat less, however, on the right side and towards the posterior part, especially about the infra spinal fossæ; no pain in the breast, even while coughing; abdomen tender to the touch, *epigastralgie*, pulse slight-

ly accelerated, but neither full nor weak; with the exception of debility and pallor of the countenance, the general condition of the patient did not appear much disturbed. *Blister to the right side and posterior part of the thorax; jalap with* ℈j. *ext. cinchonæ; gum water for drink.*

This treatment was continued until the 10th; at that period the fetor of the sputa had disappeared, they had lost their brown colour, and consisted of a white, opaque and well concocted matter. The general health of the patient was good, there was no longer pain in the abdomen, and the fever had left him. 11th. The sputa, though diminished in quantity, have recovered their former fetidity. Respiration is perfectly free, a mucous râle is still perceived towards the angle of the right scapula. *A vessel filled with a solution of chloride of soda, was placed near the patient, to diminish in some measure the excessive fetor.* These symptoms continued for many days, the sputa reacquired their brown colour, increased in quantity, and were mixed with a liquid saliva; the stench was almost insupportable, and was considered by all as indicative of gangrene. In the portion of lung corresponding to the angle of the right scapula, where the respiration had always been more feeble than in other places, the air appeared to pass through a channel of considerable dimensions; at this point there was no pectoriloquism, though the voice was distinctly heard. Towards the termination of the month, an improvement had again taken place in the appearance of the sputa, respiration was perfectly re-established on the right side, and the condition of the patient improving daily, he left the hospital about the middle of June, in a state of health.

Without positively affirming that the above was a case of pulmonary gangrene, the assemblage of symptoms appears sufficiently to justify such an opinion. The patient had previously laboured under pneumonia. A relapse was the consequence of renewed exposure, and demanded the employment of venesection, cupping, &c. These measures removed the pulmonary congestion, and arrested the progress of the inflammation, which appeared to have been of small extent, since, at the time we examined him; the superior portion of the right lung was the only part affected. The fetid odour of the sputa continuing for so long a time, their brown colour, and the increased vocal *résonnance* towards the angle of the right scapula, sufficiently indicate a rapid degenerescence of this part, the march of which, together with the abscence of tubercles, can only be reconciled with the existence of gangrene. If the prostration which usually attends this affection, were not present in the case related, it was owing to the small part of the lung involved; and we know that every disease of this organ, whatever may be its mode of action, provided it be limited to a small space, has little influence upon the general health. A case similar to the above is related in the second volume of the *Clinique* of M. Andral.

From the Bulletin des Sciences Medicales.

CASE OF A FŒTUS EVACUATED BY THE RECTUM. By M. V. G. Malacarne.

Angela Cesaretti, had had a pregnancy which terminated naturally, and subsequently three abortions; she became pregnant a fifth time, but without being able to determine the precise period. In the month of March, 1816, labour pains supervened, but disappeared at the expiration of two days. The patient said she had felt a sensation of something giving way within her, after which the waters were discharged, and indeed the midwife found her bathed in them; a small quantity of an extraordinarily fetid blood was also evacuated. The neck of the uterus was very high, and the orifice entirely closed. The pains did not return, the breasts became tumefied, and puerperal fever accompanied by violent nervous symptoms made its appearance. On examining the abdomen, a hard, renitent and immoveable tumour was observed, slightly directed towards the right side. The fever disappeared, and the pain in the side greatly lessened. At the end of fifteen days, there was a discharge per vaginam, of a greenish viscous matter, which had the odour of mould, occasionally accompanied by a little blood. These symptoms diminished after the lapse of three months. In June, 1819, after the menstrual discharge, there was evacuated per vaginam, a fluid, at first yellow, afterwards of a blackish colour, together with shreds of putrid flesh. The pains reappeared in about three months, and again left her. Seven months after, she again became pregnant. The pains returned, increased with gestation, and extending to the right thigh, produced lameness. The excretion of urine was difficult and painful, and the patient experienced an unpleasant sense of weight in the abdomen. The discharge of a dead and putrefied fœtus dissipated all these symptoms. In the beginning of October, having taken an enema to relieve some colic pains, a fragment of bone was returned with it, and during the following days, several others were found in the stools; recourse was had to a surgeon to extract several which were implanted in the internal coat of the rectum, and a parietal bone, left temporal, the ribs and maxillæ, were successively removed. The femora and tibiæ made their appearance by the same route, at periods more or less remote. A recto-vaginal fistula had formed in the interval, but in July, 1821, the abdominal tumour had disappeared, fæces ceased to pass per vaginam, appetite and strength returned, and the health of the patient was entirely re-established.

From the Archives Generales de Medecine.

LIGATURES OF THE EXTREMITIES IN CERTAIN PERIODICAL DISEASES. By M. Bourgery, D. M. P.

Compression of the vessels of the extremities in the treatment of intermittent fever, long since introduced to the notice of the profes-

sion by Mr. Kellie of Edinburgh, has been more recently successfully employed in France, and M. Bourgery has just published a memoir on the subject, containing additional evidence of its remedial powers in this and other diseases. From the different mode, however, in which it has been applied in the two countries, one might be led to anticipate no little diversity in its consequences; Mr. Kellie employed the tourniquet in such a manner as to compress two principal arteries, the iliac and subclavian, and thus entirely arrested the circulation through the extremities; in France, on the contrary, a broad ligature is applied round each of the limbs, sufficiently tight to prevent the return of blood by the veins, while the circulation through the arteries is uninterrupted—in the former method, the blood is accumulated in the left cavities of the heart; in the latter, its return to the right side of that organ is prevented. In either case, when the compression is continued a sufficient length of time, syncope is the result—an effect referrible to the different states of plethora and vacuity of the heart; in fact, when the tourniquet is applied to the arteries, there is an augmentation in the strength and hardness of the pulse, suffusion of face, hurried respiration, and impending syncope from the congestion of the thoracic and cerebral vessels; while in compression of the veins, the diminished energy of the circulatory and respiratory systems, quickly followed by a sensation of coldness and debility, and the nausea which precedes the syncope, indicate as the cause of this phenomenon, a diminution in the quantity of the habitual stimulus of the heart.

At the commencement of a paroxysm of intermittent fever, there is an accumulation of blood in the internal organs, and if, as frequently happens, one of these should be suffering under latent inflammation, it becomes more particularly the seat of the congestion, and thus complicates the paroxysm, by the symptoms peculiar to its own condition. Under these circumstances, when the ligatures are applied, a large quantity of blood is immediately withdrawn from the circulation, and an effect produced, similar to that which would result from a copious venesection, but much more considerable, inasmuch as the depletion is more rapidly made, and to a greater extent, than in that operation. After the lapse of about half an hour, the ligatures may be successively removed, at intervals of two or three minutes, in order that the system may not be disturbed by the sudden afflux of a large quantity of blood, and the paroxysm will have been prevented, without having weakened the patient by venesection, or impaired the functions of the stomach, by the administration of remedies more or less stimulating.

It would appear that the employment of ligatures in these cases, is of ancient date in England; M. Bourgery is acquainted with a native of that country, for the last forty years, principal of an extensive manufactory in Normandy, who has been in the habit of curing, in this manner, the disease among his workmen, from observation of its beneficial effects previous to his emigration; and it has long been used as a popular remedy in Wales. In France, MM. Lallemand, Martinet and Rebouam, have published cases equally conclusive in its favour, but M. Bourgery appears to have been the first who has extended its employment to other diseases, in the treatment of which, it has, in his hands, always been productive of considerable advantage, less however, as a principal, than an useful auxiliary.

The proper time for the application of ligatures, in intermittents, is the first approach of the paroxysm, when the patient begins to feel a slight sensation of chilliness; two or three turns of a bandage should be made on the superior part of the limb, sufficiently tight to interrupt the circulation through the superficial veins, and impede, in some measure, the flow of blood through the more deeply seated vessels. The local symptoms are nearly the same in all cases; distention of the subcutaneous veins, tumefaction and discoloration of the extremity, quickly followed by numbness, an unpleasant sensation of prickling, and tremor of the muscles; after some minutes, if ligatures have been applied upon all the limbs at the same time, pandiculations make their appearance, the face is pale, the patient is troubled with nausea, complains of an universal coldness, and unless one or more of the ligatures be loosened, syncope takes place, at the expiration of five or ten minutes. In order to obviate these inconveniences, M. Bourgery has confined the application of the ligature to two of the extremities at the same time, and with equally beneficial consequences. When the numbness, &c. begins to be painful, they are placed upon the two others, and after a short period, those first applied are removed; this method, moreover, possesses advantages, when it becomes necessary to continue the ligatures during a considerable space of time.

The most usual consequence of their first application, is the suppression of the cold stage, and the superinduction of the hot, followed as usual by perspiration; this however does not always occur. After the second application, there is generally no farther return of the fever; in one patient only, out of seven, M. Bourgery was obliged to repeat the ligatures the third time. An evident reaction followed their removal, the pulse became fuller and more frequent, the countenance flushed and animated, and where local pain had previously existed, it either entirely disappeared or was much diminished. These beneficial results are only obtained when the remedy is properly timed; from experiments made by M. Rebouam at the Hôtel Dieu in 1820, he was nduced to conclude--1st. That applied after reaction had taken place, the operation of the ligatures was scarcely perceptible; they diminished slightly the violence of the symptoms, and shortened the duration of the fit, but without evincing any influence over the return of the succeeding paroxysm. 2d. In the inter-

mission, and immediately after the hot stage, their employment was injurious; the syncopes were more frequent, reaction did not follow their removal, and the subsequent paroxysm made its appearance sooner, and was more severe than the preceding one.

Reflecting on the operation of the ligature in these cases, M. Bourgery has been induced to make trial of it in other diseases, which observe more or less of a periodical recurrence. In a case of chronic pleuripneumony of the left lung, accompanied with violent paroxysms of asthma, threatening asphyxia, for which all the usual remedies had been tried in vain, the preservation of the patient's life was obviously due to the ligatures; after their employment, the paroxysms were either entirely prevented, or much moderated in their violence, and their recurrence much less frequent than before. In three cases of impending apoplexy from cerebral congestion, the ligatures were a powerful auxiliary to the other measures instituted to ward off the attack; and a case of hæmoptysis is related, in which they were productive of the happiest consequences, after venesection had been tried ineffectually. The following are the conclusions which M. Bourgery has drawn from his observations.—1st. Applied at the commencement of the cold stage of intermittents, the ligatures effectually cure that disease. 2d. They are a remedy of great importance, in paroxysms of suffocation, arising from chronic affections of the lungs. 3d. In impending apoplexies they are an useful auxiliary. 4th. They quickly re-establish the circulation in cases of lipothymy, resulting from plethora of the heart. And, 5th. They are employed with great utility in internal hæmorrhages, not occasioned by the rupture of any of the large vessels.

From the Nouvelle Bibliotheque Medicale.

DISEASE OF THE CEREBELLUM.

By M. Guiaud.

A man, aged 52 years, of a sanguine temperament, and much addicted to venereal indulgences, after a paroxysm of anger, experienced an attack of cerebral congestion, from which period his intellect became affected, with some difficulty of articulation; the attack was repeated after an interval of six months, and complete mania was the consequence. The arms and thorax are well developed, and the inferior extremities greatly emaciated; his walk is tottering and laborious, articulation slow, appetite voracious, and there is a considerable development of the genital organs, with frequent erection and emissions. The patient is confined to his bed, but his general heath is tolerably good.

21st August, 1826.—He was again attacked with apoplexy, followed by loss of motion, stertorous respiration, &c. His pulse was small and frequent, and the penis was observed to be in a state of erection. Death took place at five in the afternoon.

Autopsis.—A considerable quantity of serum was found extravasated between the dura mater and tunica arachnoidea, and the latter was thickened over the superior and external portions of the cerebrum; the pia mater was injected, and there was some serous effusion in the lateral and middle ventricles. The cerebellum was evidently more developed than usual, and the superior vermiform process presented a considerable projection; upon making an incision into the latter, a cavity was found capable of containing a two franc piece, and filled with extravasated blood; on removing the coagulum, the parietes of the cavity were seen lined with a soft and yellowish white matter, which was accumulated in greater abundance towards the centre, and gradually disappeared in the surrounding medullary substance—no other lesion was perceptible.

A young man, 19 years of age, addicted to masturbation from his childhood, was brought to the Hôtel Dieu, in a state of extreme exhaustion, occasioned by frequent seminal evacuations, and diarrhœa, which had supervened some time before. He lingered in the hospital two or three months, and died in a state of complete marasmus. On opening the cranium the cerebellum was observed to be larger than ordinary, and on the posterior portion of the left lobe, above the vermiform process, there was a medullary tumour, about the size of a nut, which had already commenced the softening process. These two cases appear to lend some confirmation to the opinions of Dr. Gall, respecting the functions of the cerebellum.

From the London Medical and Physical Journal.

SINGULAR CASE OF MORTIFICATION,

treated by Mr. Green, *at St. Thomas's Hospital.*

Edward Younge, ætat. 23, labourer, was admitted into St. Thomas's Hospital, 12th October, 1826, with sloughing of the nose and feet. He is apparently of robust make and healthy constitution. From the description of himself and progress of his complaint, we could learn but little, his senses being far from sound. It appears that he has usually had a good meal a day, and that he has had few opportunities of obtaining spirits. Previous to the appearance of the disease, he slept in the open air for four successive nights, but those nights could not have been attended with frost, being full six weeks before the date of his admission. The disease, he says, began about a month ago, first by coldness in the part, which gradually turned blue, and was then affected with a burning sensation, after which it wasted away; the surface being of a black colour.

The sore on the face is of a triangular shape, extending from the bridge of the nose to the upper lip, making the nose level with the cheeks, and exposing the alveolar processes of the upper jaw: there is a dark brown and dry slough upon the surface, with an evident line of separation, which is furrowed

round the sore, showing the ivory appearance of the bone beneath in some places, and just detaching the slough from the edges in the others; there is no blush of inflammation or tenderness. The left foot has a slough upon the toes, similar to the former, though irregularly affecting them, while a livid hue extends up to the ankle. In the right foot, discolouration alone is present. The hands partake also of the same appearance. Each limb is cold to the touch, and produces to the patient the sensation of burning heat. The temperature of the whole body is far below the natural standard; the pulse is 100, and very feeble; tongue dry and brown; great thirst; skin hot; his stools are frequent, and passed almost involuntarily; and his urine is scanty. Mist. creta f℥j.; conf. arom. ℈j.; tinct. opii m. xx. quartâ quâque horâ.—Aquæ vitæ et aquæ tepid. āā ℥ss. omni semihora.—Cat. lini to the sloughs. Flannel to the discoloured parts.

Nine P. M.—Skin burning hot and dry; pulse sharp and quick; thirst still great. Brandy every hour only, with double quantity of water.

Eleven P. M.—General excitement the same; the skin hotter. Brandy every hour and a half, with hot water every half hour.

13th, seven A. M.—Skin getting cold again, and pulse sunk, but no perspiration. Brandy every hour.

Twelve o'clock.—Much the same. ℞. Mist. cretæ f℥ss.; conf. arom. ℈j.; tinct. opii m. xx. quartâ quâque horâ.—Beef tea.

14th.—Very little alteration. Diarrhœa less; spirits better, and answers more freely, but there is always a dulness about him. ℞. sulph. quinin. gr. v.; tinct. opii m. x.; inf. catechu ℥iss. quartâ quâque horâ.

Half-past ten P. M.—Delirious, with great restlessness, and tossing about for the last hour, having complained of considerable pain in the affected limbs. Pil. opii gr. iij. st. s. et repr. j. omni semihorâ.

The delirium continued to increase till half past twelve, when he suddenly expired.

18th.—On examination nothing unusual presented itself. The liver and kidneys were much enlarged, but their structure, as well as that of every other viscus, was perfectly healthy. The lungs, heart, and large vessels, showed nothing unnatural. A little water was found at the base of the brain.

In this case, the most remarkable circumstance is the obscurity of the cause, in the search of which, neither the history from the patient while living, nor the post-mortem examination, could assist us. Nourishment had been supplied to him in sufficiency, and he could not have been exposed to any great degree of cold. The large arteries indicated no diseased alteration; and we were not induced to examine the smaller vessels, as the same appearances would, in all probability, have been seen as in the large ones.

While in the hospital, his different limbs exhibited all the various stages of the disease very remarkably at once. His hands were slightly discoloured, numbed, and cold to the touch; the right foot was of a deeper cast; and the left exhibited a slough, not circumscribed, but inclined to spread, the black and livid colours being intimately blended together; while on the nose was not only a line of demarkation, but in some parts actual separation.

From the Medico-Chirurgical Review.

EXTIRPATION OF THE UTERUS.*

By Dr. Gustavus Hesse.

This operation, though one of the most formidable in surgery, has been practised for centuries past—and more frequently by ignorant or audacious charlatans, than by regular surgeons. A German surgeon, however, (M. Osiander) rescued this operation from the hands of quacks, but, unhappily, he never could be prevailed on to give the details of his practice to the world at large. He simply stated, from time to time, that he had performed the operation, and promised a book on the subject; but he died at an advanced age, and has left no records of his cases—at least, that are available by the profession.

Osiander's operation was seldom imitated till of late years, when several cases have been published of partial and even of total ablation of the womb. It would be wrong to form too sanguine hopes from this operation, especially in cases of cancer uteri; but the experience of Osiander enabled him to aver, that extirpation of scirrhous uterus was as successful as extirpation of that disease in other parts of the body. All of his patients recovered from the immediate effects of the operation, though some of them relapsed afterwards, and died of the renewed malady.

This operation (extirpation of the uterus) is said to have been performed in a great many instances formerly. Baukin relates nineteen cases; and Schenk a far greater number. But it is justly doubted, whether many of these were not partial amputations of the organ, or removals of polypi, which had been mistaken for enlargements of the womb. Baudelocque, however, considers it as incontestible, that the extirpation of the uterus had been successfully executed before his time. The operation has been performed too, when it was not designed—and the uterus has been mistaken for a polypus or other morbid growth, and extracted under this false supposition. In our own country, Clarke and Johnson have afforded examples of this nature; while Petit, Paletta, and others, have recorded instances on the Continent. From this it will be evident, that it is not very easy to get at the exact truth, in the relation of cases, even where there is not the smallest disposition to deceive, on the part of the operator.

Our author investigates the history and utility of this operation under three points of view—in prolapsus uteri—inversio uteri—and cancer of the organ.

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* Allgemane Medezin. Annalen. May, 1826.

1. *Prolapsus Uteri.* This appears to have been the case to which the operation in question was first directed, if we fairly interpret the writings of Ætius and Paulus Egineta. No doubt this measure was not resorted to, except in extreme cases—probably where the uterus was threatened with gangrene. In the case related by Hosack, (Med. and Philos. Register,) the womb, at first prolapsed, had afterwards become inverted, and had degenerated into a scirrhous structure. The uterus extirpated by Ruysch, was in a similar condition; and that operated on by Wolff, was prolapsed and carcinomatous. Fodéré (Journ. Complement. tom. xxi.) details a case of prolapsed uterus, where the organ was first tied with a ligature, and, two hours afterwards, cut away. The organ was changed in structure.

The ligature first, and resection afterwards, was the most general measure which was resorted to both by Ancients and Moderns, but not the only means. Ambrose Paré relates a case where the knife was used without any ligature, and the woman recovered from the operation, but died three months afterwards of pleurisy. Another case is on record, where a bold and ignorant empiric cut away a prolapsed and inverted uterus, and, with it, several feet of intestine which had descended in the organ! Van Heer witnessed this exploit. We need hardly say that almost immediate death was the result. Langenbeck extirpated, with the knife alone, a carcinomatous prolapsed womb. After having divided, by a scalpel, the connexions of the vagina with the uterus, and dissected the peritoneum back off the organ, he removed the uterus, but encountered a tremendous hæmorrhage, from which, however, the patient recovered completely.

The ligature alone, without the knife, appears to have been seldom trusted to in this operation. Blasius mentions a case where a woman died three days after the application of a ligature. Dr. Marschall, of Strasburg, (in 1794) applied a ligature to a prolapsed and scirrhous uterus, but was obliged to cut it away on the second day, in consequence of pains in the abdomen and convulsions. He then had recourse to the knife, and the woman survived the operation ten years. Ruysch has published an unfortunate case where the ligature included the urethra of the patient, and death ensued.

2. *Inversion of the Uterus.* This state of the organ gave occasion to the operation in question, full as often as prolapsus uteri. There must always, indeed, have been more or less of prolapsus accompanying inversion of the organ—and the Ancients did not make any very nice distinction between these two states. The inverted uterus has been, sometimes, cut away at once—sometimes tied with ligature, and then amputated—sometimes treated with the ligature alone. It has been totally, and it has been partially removed. Wrisberg relates a case where a midwife inverted the uterus, and then cut it away, thinking it was the afterbirth! The woman survived after a frightful hæmorrhage. This is encouragement for Sir Anthony and his ultra-delicate partisans. M. A. Ulmus gives the history of a similar exploit performed by a midwife; but the result was immediately fatal. A third instance, in all respects the same, and with a similar catastrophe, is put on record by Fabricius Hildanus. In the *Annal. de Literat. Med. Etrang. à Gand.* t. xv. there is a case where a midwife, in dragging at the umbilical cord, inverted the uterus. The sage femme completed the job by cutting all away with a razor. The patient fortunately recovered by the application of ice, which stopped the hæmorrhage. These cases induce to the belief that, in the hands of a skilful surgeon, the danger of the operation is not so great as one would be led to suppose. Among the numerous cases on record, where the inverted uterus was extirpated, we shall only cite a few.

Viëussens and other surgeons were consulted in the case of a woman, where a tumour presented, the exact nature of which they could not ascertain. They all agreed that it should be removed, which was done, by ligature and the knife. It was then discovered that they had extirpated the uterus. The woman recovered perfectly, and lived fifteen years afterwards. The body was examined in the presence of several physicians and surgeons—and the fact was proved beyond a doubt. Mr. Baxter relates a case where the uterus was inverted, and, five weeks afterwards, the ligature was applied and the organ cut away. The woman recovered. A case is related in the Medico-Chirurgical Transactions by Sir Astley Cooper, in which Mr. Windsor tied and extirpated an inverted uterus with success.*

The ligature *alone* has been used in but a few cases comparatively. Mr. Newnham's case is well known, and is fully detailed by him in an essay on the subject. M. Faivre (*Journ. de Medecine, Aout,* 1786) performed this operation by the ligature. The uterus had been inverted by the violence of the midwife, and was sphacelating. He applied the ligature. The patient was harassed with vomiting, convulsions, and diarrhœa, till the 27th day, when the parts separated, and the patient, from that time, did well. Under the same head, may be ranged a case in the third volume of the Dublin Hospital Reports, communicated by Dr. Charles Johnson. An inverted uterus was mistaken for a polypus, and a ligature applied. The mistake was discovered, but it was deemed prudent to continue the ligature. In three weeks the tumour came away, and the patient did well. It appears that Dr. Johnson was in error, in his remarks on this case, by attributing to M. Petit the honour of having first applied the ligature for the removal of inverted uterus. German research has proved that this opera-

* Vol x. p. 365.

tion was performed by Rousset and many others, long before M. Petit existed.

3. *Extirpation of Carcinomatous Uterus.*—We are now arrived at the period when the operation of extirpating, partially or totally, the uterus or its neck, affected with scirrhus or cancer, (but neither prolapsed nor inverted,) has created a great sensation in the medical world. In this historical sketch, however, we must sometimes revert to cases where the above mentioned conditions (prolapsus and inversion) accompanied the carcinomatous state.

The merit of first operating on the uterus in this dreadful disease, is generally given to Osiander, though it is certain that Wrisberg *proposed* the operation long previously. But, as there is one glory of the sun, and another of the stars—so there is one kind of honour in *proposing*, and another in *executing* a hazardous and new operation. It is certainly very probable that, among the numerous instances of extirpation of the uterus, for inversion and prolapsus, there were some cases of scirrhus or cancer; but still Osiander has the merit of first amputating the uterus in a carcinomatous state, uncomplicated with inversion or prolapsus.

Osiander was greatly averse to total ablation of the organ. He dreaded the descent of the intestines, the hemorrhage, &c. He therefore contented himself with the removal of the diseased portion of the womb, by means of scalpel or scissors. At first, he recommended and practised the drawing down of the uterus by means of a ligature, before cutting away the parts; but he afterwards abandoned this measure, and trusted to the fingers introduced into the cavity of the womb, and serving as a guide to the cutting instruments.

Osiander performed this operation 23 times in fifteen years, viz. between 1801 and 1816, yet he never published a single case in detail; but only gave a few particulars of the first operation to the public. Our knowledge of the facts of these operations is authenticated by those who witnessed them; but the original operator carried with him to his grave all the knowledge he possessed on the subject. This is a great sin in any man. Medical knowledge is derived from the public, as rain is derived from the ocean. The former should return to its *source* like the latter.

Professor Rust (*Med. Chir. Zeit.* 1813,) was the first in Germany to imitate Osiander. He extirpated the cervix uteri, according to the plan of Osiander, in the case of a woman, 50 years of age, who had a cancerous excrescence of this part, the size of a man's fist, the rest of the organ appearing to be sound. The hemorrhage was very considerable, and was with great difficulty restrained. The patient died eight days after the operation, and, on dissection, the remainder of the uterus was found in a state of sphacelus.

Paletta (*Med. Chir. Zeit.*) performed the operation of Osiander, as he thought; but, on examination, the *whole* of the womb was found to have been removed, in a prolapsed and degenerated state. The woman died three days after the operation, with symptoms of peritonitis.

Graefe was the next who performed ablation of the cervix uteri, affected with a cancerous disease. He removed the parts with scissors. The hemorrhage was arrested by the introduction of sponges soaked in cold water. Inflammation of the remaining portion of womb, of the bladder, and of the intestine, supervened, and reduced the patient to a state of great danger, but she ultimately recovered.

In France, the operation has been several times performed by Dupuytren. Previous to 1815, (*Bibliotheq. Med. Fevrier*, 1815,) this eminent surgeon had operated seven times. In one case, the disease returned at the end of two years—in a second, there was a recurrence of the malady in 18 months. In a third case, the woman was living and well in 1815, four years after the operation.

Bayle strongly recommended, and indeed brought into vogue in France, the treatment of cancerous uterus by means of caustic. That distinguished physician had observed, in numerous dissections, that the change of structure under uterine ulcerations, goes to a very limited depth—only two or three lines. The arsenical paste, and even the actual cautery, have therefore been frequently applied with success in France.

Numerous objections have been made by Wenzel, Zang, Siebold, and others, against Osiander's operation of *partial* ablation of the uterus. The main objection consists in the fact that, in such cses, there is *generally* disease, or strong disposition to disease, in the whole of the organ, and consequently, there is great chance of the disease continuing or returning. It must be confessed that this objection very often lies; but the same may be urged against the operation in any or every other part of the body. There may be cases and circumstances to which this partial amputation of the uterus is applicable.

As to the question respecting the best method of operating, it is doubtful whether the ligature, the knife, or both in sequence, should have the preference. The knife would certainly be the best instrument, could we be sure of commanding the subsequent hemorrhage.

Total Ablation of the Womb.—Before this operation was attempted, Wenzel, Zang, and others, pronounced it to be impracticable—or, if practicable, that it would be inevitably fatal. Experience has shown how dangerous it is to prognosticate with confidence on the event of any surgical operation. Sauter was the first to disregard these croaking predictions, and try the experiment. The patient on whom he first operated was 50 years of age, and affected with a true cancer of the whole uterus. The operator first tried to draw down the organ with his finger; but finding that impossible, he passed the fore and middle fingers of the left hand between the pubes and the uterus, and with these as a

guide, he separated the connexions between the vagina and uterus, anterior and lateral. This done, he was enabled to draw down the uterus by means of a hook. A further separation of the organ from its neighbouring parts was effected, but not without wounding the bladder. It was now found impossible to remove the uterus without cutting through the peritoneum. This was done, and the cavity of the abdomen was actually laid open. The fingers were then passed up over the fundus uteri, and the attempt made to invert the organ forwards; in which attempt a quantity of intestine was protruded. This was returned —the antero-version of the uterus effected; and the organ finally cut away. Means were then used to prevent the prolapsus of the intestines, and, in two months, the wound might be considered as healed, with the exception of a vesicle fistula. Four months afterwards, however, the patient fell a victim to a disease of the lungs. On dissection, there were found only some trifling adhesions between the ileum and the peritoneum, the result of the operation; the cause of death being in the lungs.—*Sauter's Work.*

First operation of Siebold. This case is detailed in the third volume of the present series, p. 264—6. It was fatal; but the mass of disease in the abdomen rendered it hopeless from the beginning—and, indeed, an improper case for the operation at all.

Operation of Hoelscher. This case is also given in the same volume, immediately after the preceding one. It was fatal.

Operation of Professor Langenbeck. Two females were operated on by this gentleman.

Case. A woman, 30 years of age, was received into the clinical wards of Langenbeck, in Gottingen, on the 4th of January, 1825. She had had eleven children, and enjoyed good health till within three or four months of the date above mentioned. When examined in the hospital, she presented the following symptoms: viz. abdomen painful, especially on the right side; a great deal of fetid discharge from the vagina; two scirrhous tumours in the vagina, preventing easy access to the uterus; neck of the womb ulcerated; internal parietes of the organ, as far as could be felt, studded with tumours; in short, the uterus was pronounced to be, not merely scirrhous, but affected with open cancer. On the eleventh of January, Langenbeck performed the operation, above the pubes. An incision being made from the sympysis pubis to within two inches of the umbilicus, the parietes of the abdomen were cut through to that extent. The intestines and bladder being kept out of the way by assistants, the operator seized the uterus with his left hand, and, introducing a long pair of scissors, shut, into the abdomen, he first separated the right ovary from the uterus, and then went on detaching the organ itself, together with the scirrhous tumour above mentioned, till the whole were removed, the operation not lasting more than seven minutes. There was very little hemorrhage, and no protrusion of the intestines through the vagina. The patient died 32 hours after the operation. On dissection there were seen marks of extensive peritoneal inflammation, and a large quantity of coagulated blood in the pelvis. The bladder was gangrenous.

Second operation of Siebold. A female, 30 years of age, of delicate constitution, (whose mother had died of cancer of the womb, at the age of 45,) had always enjoyed good health, and had borne some children. After her fifth accouchement, she entered the hospital of Berlin, in 1824, complaining of violent pains in the region of the uterus, of a darting and burning nature, extending often to the abdomen, and causing faintness. There was also a sense of weight in the hypogastrium, with frequent and painful micturition, bad state of the bowels, nocturnal sweats, shiverings and flushings alternately. There was a discharge from the vagina, sometimes inodorous, sometimes fetid, sometimes mixed with clots of blood. The projecting portion of the os tincæ was hard and very painful to the touch. The fundus uteri was also very painful, and turned a little backwards. There were various hemorrhoidal excrescences about the anus. The conclusion was, that the uterus generally was affected with scirrhus. The patient ardently wished for an operation, and it was performed on the 25th July, 1825. The vagina was slit on one side, and the uterus being hooked with a needle and strong ligature, was removed by means of long scissors. The operation lasted 25 minutes, the patient supporting it with the most heroic fortitude. The hemorrhage, at first, amounted only to a few ounces; but, twelve hours after the operation, there issued from the vagina ten or twelve ounces of pure blood. The patient sank the next day. Extensive inflammation was found in the abdomen.

Second operation of Langenbeck. A female servant, 28 years of age, was received into the clinical wards of Gottingen Hospital, on the 28th July, 1825. She had borne her first child at the age of 19, and a second at the age of 24 years. This last accouchement was very laborious, and instrumental aid was necessary; but she recovered well, and continued so till 1824, when she began to experience lancinating pains in the pelvis, from time to time, especially in the left side. On examination, the abdomen was found painful on pressure; the os tincæ was projecting and hard to the touch; the uterus itself appeared sound on the right side, but in the left it presented scirrhous eminences, and was adherent to the vagina. From this part there was a thin sanious discharge. The finger introduced into the rectum, felt the uterus hard and studded with scirrhous tubercles. The disease was therefore pronounced to be scirrhus uteri.

The operation was performed on the 5th August, at 8 o'clock in the morning, after proper preparation of the patient. The bladder being emptied, the perineum was incised backwards by a bistoury, in order to give more space to the operator. The surgeon

took the hysterotome of Osiander, and commenced his incision in the right side of the vagina—then introducing the fingers of the left hand along the posterior parietes of the vagina, between the rectum and the uterus, he divided the peritoneum with the hysterotome, and enlarged the wound towards the bladder, by means of the scissors. He then seized the fundus uteri with his fingers, (keeping the back of his hand towards the abdomen to prevent the decent of the intestines,) and drew it downwards, dividing the connexions, and removing the organ. The operation lasted 15 minutes. A sponge dipped in vinegar and water was introduced into the wound, and the patient put to bed. She died on the 7th, after midnight. The peritoneum was every where found coated with coagulable lymyh, agglutinating the intestines together. The bladder was black—much blood in the pelvis.

Upwards of two years ago, (July 1825,) when we stated the case of Professor Siebold, we took the liberty of differing from our senior cotemporary of the north, on this point of surgery, and made the following remark. "We consider the extirpation of a uterus not previously protruded or inverted, one of the most cruel and unfeasible operations that ever was projected or executed by the head or hand of man." We still think so; and we believe we are borne out in this opinion by the results. Let us hear what Dr. Hesse says on this occasion. We shall quote from the French. "Dironsnous avec M. Siebold:—*felix quem faciunt aliena pericula cautum!* Les resultats de ces essais ont été en effet tellement fâcheux, que tout operateur trop entreprenant, devrait, ce semble, s'arreter, au souvenir de ces monumens effrayans d'un zèle poussé à l'exces."

At the same time Dr. Hesse thinks that the result of Sauter's operation prevents the door from being completely shut against total ablation of the uterus, where there is neither procidence nor prolapse of the organ. All we can say is, that we conceive the *total* extirpation of the womb, and consequently the opening into the cavity of the abdomen at the part, is an operation not justified by any thing yet put upon record. The partial extirpation of the organ is quite another thing, because it does not expose the peritoneum to incision.

From the Lancet.

INTERESTING CASE OF SPINA BIFIDA, *treated according to the plan of Sir A. Cooper, by Puncture.*

A strong child, ten days old, was brought to the Hospital, some time ago, with a large swelling, measuring nearly 14 inches in circumference, situated in the central portion of the sacrum; which was tense, elastic, and semi-transparent, and evidently contained a large quantity of fluid. The integuments forming the parietes of this swelling were remarkably thin, and, at some places, of a deep red colour, and appeared as if about to ulcerate. The central portion of the sacrum was evidently deficient, and the tumour could be traced to extend nearly to the situation of the cauda equina.

From this disease, which was congenital, although at first scarcely of one-third the size which it had since attained, the child seemed to suffer little inconvenience, and although the tumour was of large size, and must have compressed the termination of the spinal marrow, nothing like paralysis of the lower extremities had ever been produced, nor yet had it on any occasion, given rise to convulsions, which are so frequently the result of this disease. As the integuments of the swelling were inflamed, and as there appeared to be a great likelihood of their ulcerating, and of the contents being consequently discharged by a large opening, which would have probably been speedily followed by death, Mr. Wardrop deemed it advisable to puncture the sac with a small needle, in order to allow of the gradual discharge of the fluid. This operation, which was repeated five times during the succeeding ten days, was attended with no symptoms of the least consequence, except, perhaps, a slight degree of febrile excitement, which soon disappeared. On the 11th day, as the fluid was found to be rapidly accumulating, and as no bad consequences had resulted from the previous operations, it was thought proper to introduce a very small trucar, when nearly five ounces of a very dark-coloured and thick fluid were evacuated. It was now found that the parietes of the tumour had undergone a very considerable change, and that they had become very much thickened and corrugated. On the 14th day, the appearances of the tumour were very much improved, its size was evidently much less, and its parietes were gradually becoming of greater thickness. The fluid, which was of a very fetid nature, and intermixed with numerous small flocculi of lymph, was again evacuated. The health of the child continued unimpaired.

During the succeding month, the swelling was occasionally, by means of the small trocar, punctured, and its contents, which had now degenerated into a thin serous fluid, drawn off. At the termination of this period, the tumour was reduced to less than one-third of its original size, and what remained attained a very solid consistence. The child seemed to be, otherwise, in perfect health, and had none of those symptoms which usually mark the progress of the disease. A few days, however, subsequently to this period, the little patient was suddenly, and apparently without any cause, seized with convulsions, which speedily terminated his existence.

On dissection, the integuments of the tumour, which was divided into three cavities, were found to have become remarkably thickened and indurated, and, indeed, entirely to have lost the appearance of the cutaneous textures. The cavities were in immediate connexion with the termination of the spinal marrow, but, from the alterations in structure,

it was impossible to discover whether or not the meninges of the cord constituted a covering to the tumour. The spinal marrow itself seemed to be sound, and no other disease existed in the body.

The history of this case, the great benefit of the treatment employed in arresting the fatal termination of the disease, and in producing nearly an obliteration of the cavity of the tumour, argue strongly in favour of the treatment by puncture, employed and recommended by Sir Astley Cooper, even although it ultimately proved unavailing.

From the Journal des Progres des Sciences et Institutions Medicales.

MENTAL ALIENATION.

Summary of the observations made in the Royal Hospital of Aversa, from the first of January, 1814, to the 31st of December, 1823, by Dr. Giuseppe Lostritto, physician to that establishment.

Admissions.—In the space of the ten years, included between these periods, 1725 patients were received, averaging 175½ for each year. The greatest number were admitted in the years 1822 and 1823, when the political disturbances were at their height, and many more during the months of May, June, July and August, than during the three winter months. The same thing obtains in Paris and London. In Naples, as well as in the rest of Italy, Spain, and the north of Europe, the number of admissions is in general less than in France and England.

Age.—The greater part of those admitted were between the ages of 20 and 30 years; at the latter period especially, they were most numerous, and this remark is equally applicable to both sexes. After the age of 40, the disease was much less frequent.

Sex.—In Naples, and the observation extends also to the rest of Italy and to Spain, the males are more subject to this disease than the females. In the southern part of France, the proportion is nearly equal, while in the north, the number is greater among the females. At Moscow and St. Petersburg the relative frequency of the disease among females and males is as 4 to 5.

Temperament.—At Naples, the bilious temperament is more especially exposed to the disease.

Condition.—Peasantry formed a fourth part of all those admitted, and from a consideration of the causes producing the disease amongst them, it appeared to be owing less frequently to insolation than to the wretchedness of that class of people in Naples. The proportion of the married and unmarried was pretty nearly equal; in France it is most frequently met with among the latter.

Causes.—Moral causes in Naples, France and England, are much more frequently operative than physical ones. According to the registers, there were only twenty instances of hereditary insanity. This number is so disproportioned to that observed in other countries, that there would seem to be some error of observation on the part of the physicians whose duty it is to investigate the causes of the disease; should it be otherwise, it would be highly important to ascertain the cause of so great a difference. In Naples insanity is frequently the consequence of fevers, cerebral affections, and particularly malignant intermittents; the tender passions appeared to be the exciting cause in about one-tenth of the inmates of Aversa; but in the kingdom of Naples, as in that of France, vanity, pride and ambition, are the tyrants which are most frequently subversive of the human intellect.

Species.—Monomania is more frequent than all the other species of insanity. Of 1430, 783 were monomaniacs; and of these 365 had the disease in its cheerful form, while the remainder were a prey to the depressing passions. It began in June, continued through July and August, and became more frequent in September and October. The cases of mania often made their appearance somewhat earlier, and were particularly frequent in July and August.

Cure.—Patients labouring under *mania* more generally recovered than those attacked with the other forms of insanity, the proportion for males was as 3 to 10, and for females 5 to 17, a less encouraging result than is furnished by France and England. The successful cases increased in frequency in September, remained stationary in October and November, and became particularly numerous in the month of April. These results coincide with those obtained in France. In 1819 and 1820, a greater number of cures were obtained at Aversa than in any of the preceding or following years; in France the successful cases were more numerous in 1814, '15 and '16, a circumstance explained by the political occurrences of the times.

Relapses.—In the period of ten years, now under consideration, of 575 cured (405 males and 170 females,) 108 had a return of the disease, of which number 52 were males and 56 females. In France relapses are less frequent, being in the proportion of one in nine for the males, and one in ten for the females.

Mortality.—At Aversa, the mortality is nearly equal for both sexes, and amounts to rather more than one-fourth of the whole number. In France it is one-ninth for males, one-sixteenth for females, and one-thirteenth for both sexes. At Aversa, as in the kingdom last mentioned, the winter months furnish the greatest number of fatal cases; 278 died in November, December and January, and 529 in the other nine months. The mortality was less in May, June and July, than at any other period; 116 died in 1816, by reason of a typhus epidemic which prevailed in the hospital that year; the average number of fatal cases has been 33 yearly. Insanity is not of itself a fatal disease; very few died apoplectic. The dry gangrene, exanthematous fevers, cachexies, suicides, &c. were the most frequent causes of death.

From the Journal Universel des Sciences Medicales.

EXTENSIVE DEGENERESCENCE OF THE LYMPHATIC SYSTEM. By Dr. Pallas, Adjunct Physician of the Military Hospital of Pampeluna.

The subject of the case, Martine Vavasain, aged 51 years, was a woman of an irritable temperament, reserved and pusillanimous disposition, and habitually moderate in her diet. She married at the age of 35, but had no children. Till within the last four months she had continued to enjoy excellent health, interrupted only by a slight attack of intermittent fever in her childhood, which disappeared without the aid of medicine. At the period mentioned, taking part with her husband in a dispute with one of his neighbours, her passion became much excited, and she was attacked with severe pain in the stomach, attended with nausea and retching. From this time her health became impaired, her appetite entirely disappeared, and *engorgement* of the legs was soon after perceptible; that of the right side was affected with erysipelatous inflammation. Some days later, numerous little tumours, about the size of a hazel nut, made their appearance beneath the skin of this part, and subsequently upon the thighs. At the expiration of a month and a half, they were found scattered almost over the whole surface of the body, attended with considerable tumefaction of the right side of the neck. The tumours increased in size, and became painful; but this state was of short duration; they soon resumed their indolent character, and there was an evident diminution in size. December 22d, 1826, she was admitted into the civil hospital of Pampeluna. On her entrance she appeared melancholy and dejected, appetite entirely gone, and tumours of various magnitudes were observed covering the lateral parts of the trunk, the whole surface of the abdomen, and the extremity and base of the tongue. Supposing the disease to be a case of melanosis, the attending physician was about to try the effects of iodine, when the patient unexpectedly sunk, became cold, and died on the 14th January, 1827, in full possession of her intellectual faculties.

Dissection.—External habitude.—The body was of small stature, and much emaciated; the skin pliable and free from eruption, was embossed by tumours of various sizes, which were more immediately invested by a smooth, fibrous envelope, of considerable firmness. In examining the body from below upwards, they were visible—1st, on the legs and interior of the thighs, where they were as large as a filbert; 2d, of the size of a horse chesnut, covering the whole surface of the abdomen, but especially congregated in the neighbourhood of the epigastrium; 3d, upon the lateral parts of the chest and neck, extending to the mastoid processes; 4th, on the forearm and arm, particularly on their internal surface, extending to the axillary glands, which were considerably enlarged. The inguinal, parotid, submaxillary and mammary glands were in their natural condition. Extending the dissection to the muscular system of the trunk and extremities, tumours of the kind already mentioned were found scattered in considerable number between the superficial and deep seated layers on the forearm, several were seen between the muscles of the arm, five between the recti abdominales, three between the intercostals of the right side of the thorax, and one equalling in volume a large egg, beneath the left sterno-cleido mastoideus; nothing similar was observed between the muscles of the inferior extremities and posterior part of the trunk.

Digestive Apparatus.—Tumours of the same character, the largest of which did not exceed the size of a pea, were found upon the extremity, and particularly at the base of the tongue, situated immediately beneath the mucous membrane.

On opening the abdomen, a considerable quantity of bloody serum was found in its cavity; the omenta were injected, blackish, and presented a macerated appearance; five tumours, the smallest of which was about the size of a large chesnut, were found between the lamina of the omentum gastro-colicum, in the portion which intervenes between the stomach and transverse colon; they were also scattered in considerable number throughout the whole extent of the mesentery, presenting on each side of the vertebral column masses of great magnitude; several were found on the lateral parts of the vertebræ, covered by the peritoneum; but the most remarkable was a tumour of an ovoid form, equalling in volume a small melon, situated between the spleen and left kidney, to both of which it was connected by cellular tissue. This enormous mass was enveloped like the others in a kind of fibrous membrane, and weighed one pound five ounces. Several of these tubercles, in consistence and colour not unlike a coagulum of blood, were found with their covering ruptured, and their contents escaping into the cavity of the abdomen, communicating a bloody tint to the extravasated fluid. The stomach, distended with gas, contained a small quantity of mucus; its villous coat was of a pale colour throughout, and presented a macerated appearance in several places. It was readily detached from its connexion with the other tissues. The intestines, and especially the duodenum, were red and inflamed; they were distended with gas, and contained a small quantity of fecal matter. The liver was of considerable magnitude, but presented no unusual appearance; the substance of the spleen was more fragile than ordinary, and resembled that of the lymphatic tumours. The remaining viscera presented nothing remarkable, with the exception of the uterus, which was very small, and contained a minute quantity of bloody serum.

Respiratory Apparatus.—The right side of the thorax contained a small quantity of yellowish serum, and three tumours, about the size of a filbert, were found on the right side of the vertebral column; the left side present-

ed no unusual appearance. The lungs distended with air, were sound, crepitating, and free from tubercles. The bronchial glands, which are generally found without difficulty, were almost invisible in this instance.

Circulatory Apparatus.—A minute quantity of limpid serum was effused into the cavity of the pericardium. The heart was of the usual size, pale, and softened in its texture; two tumours of the size just mentioned were situated on a level with the partition of the ventricles, towards the base of the organ; and two others internally, one upon the columnæ carneæ, and the other on the internal parietes of the left ventricle. The vessels were nearly empty, and the blood had evidently undergone a considerable change, it was less deeply coloured, and contained a smaller proportion of fibrine than is usually met with.

Internal Sensitive Apparatus.—The cavity of the cranium presented nothing remarkable; the substance of the brain preserved its ordinary consistence, it was of a pale colour, and its vessels almost entirely empty; the ventricles contained a considerable quantity of yellowish serum. The vertebral column was not opened.

Physical Character and Chemical Composition of the enlarged Glands.—Their figure was variable, oblong, reniform, but more frequently oval; their specific gravity considerable, and they were invariably situated upon the course of the lymphatic vessels. They were furnished with a fibrous envelope, smooth, resisting, and about two lines in thickness, containing a dark red matter of the consistence of inspissated honey, and enclosed in meshes formed by the delicate cellular tissue, which traversed their interior. Placed between the fingers, this matter was easily broken down, and appeared to be formed by an assemblage of minute globules, furnishing upon chemical analysis, water, a brown pulverulent substance, insoluble in water at all temperatures; albumen; a very minute quantity of colouring matter resembling that of the blood; mucus and hydrochlorate of lime.

The preceding case is considered by Dr. Pallas as demonstrative of the correctness of the opinion advanced by M. Broussais, which attributes the formation of tubercles in the mesentery to gastro-enteritic inflammation.

From the Medico-Chirurgical Review.

SECTION OF THE PNEUMO-GASTRIC NERVES.

[M. Dupuy. Veterinary School of Alfort.]

It is now ascertained, beyond all doubt, that section of the par vagum, on both sides, destroys an animal, say the horse, in a few hours, by paralyzing the muscles about the larynx, and thus causing asphyxia. When death is thus produced, we cannot properly ascertain the real effects of the interruption of the nervous influence on the stomach, lungs and other organs. M. Dupuy, therefore, in his experiments, opens the trachea of the horse, by which the animal is made to live from fifty to sixty hours. The gentleman in question has laid some experiments lately before the Medical Society of Paris, in which the effects of the pneumo-gastric section are shown. Thus, the nerves were divided in both sides of a horse's neck, and portions cut away. Tracheotomy was then immediately performed. The animal was carefully examined at certain periods, and also bled before and after the operation, in order to ascertain the effects of the section on the blood, as well as on various functions. Two hours after the section, there was no alteration in the functions of respiration, circulation, &c. The animal continued to eat as before. In four hours, the breathing was accelerated—the blood from the carotid was now darker in colour than before—the animal ate and drank, but deglutition seemed performed by a convulsive action, and liquids returned by the wound in the trachea. At the end of 16 hours, the breathing was slow and deep—much mucus flowed from the wound in the trachea, and the food returned by the same aperture—the action of the heart is much weakened—arterial blood is now nearly as dark as venous. The fourth examination, at the end of 28 hours, showed no material alteration. At 40 hours from the operation, the animal had great difficulty in swallowing—the blood from an artery was quite black—the œsophagus was felt to be crammed with food—and the horse was comatose. At 52 hours, the breathing was stertorous, and he soon died.

Dissection.—There was nothing wrong in the brain. All the parts forming the aperture in the larynx were swelled and red, so that the passage was almost entirely closed. The mucous membrane of the larynx and trachea was red, and otherwise discoloured, but these were considered cadaveric phenomena. The lungs were inflamed and hepatized—the bronchia were filled with mucosities. The substance of the heart was much softened, and its cavities filled with black blood. The œsophagus was filled with alimentary matters, as were the pharynx and nasal cavities. The stomach was filled and distended with food almost dry, and adherent to the mucous membrane of the organ, which was of a red colour. There was no chyme in any of the intestines. The liver was enlarged—and there were several large black spots on the spleen.

From the above, and other experiments of a similar kind, it is evident that section of the pneumo-gastric nerves stops the sanguifactive (arterializing) process in the lungs—paralyzes the œsophagus—and puts an end to the secretion of gastric juice, and, consequently, digestion in the stomach.

The experimenter found, in this, and several other cases, that a peculiar effect is produced on the spleen by these operations—namely, that its blood is changed, and capable of *producing* a disease in other animals, when introduced by a puncture, which affects *their* spleens and causes death. The same was found to be the case with the spleens of animals living in marshy countries, where intermittents prevail. This is a very curious and

interesting fact, which seems to be corroborated by one related by M. Adouard, and which we shall append to this paper.

Pemphigoid Affection of the Spleen, producing a Contagious Material. By M. Adouard.—The following case was published at the time of its occurrence in the Annals of the Medical Society of Montpellier. It is here republished, for the reasons above mentioned.

A French cavalry soldier was affected for some time with ague, in the malarious countries about Lodi. When M. Adouard took charge of the Military Hospital, this man was cured of the ague, but laboured under a considerable enlargement of the spleen. This was much reduced by proper means, and the patient was nearly re-established in general health, when he suddenly expired one morning, without any thing to account for the fatal event.

On dissection, nothing could be discovered except the enlargement of the spleen, on the surface of which were several phlyctenæ, of different sizes, elevated, nearly colourless, and containing a yellowish fluid, like that of pemphigus. A drop of this fluid came in contact with a chap on one of M. Adouard's fingers, and caused instant stinging pain. This was followed, in eight hours, by such constitutional disturbance as to force him to quit a company in which he was spending the evening, and retire to bed. At midnight, he had a severe rigour of two hours' duration, followed by intense fever, and, ultimately, by perspiration and comparative apyrexia. Next day, there was an ugly looking pustule on the part affected, and his whole mental and physical powers were prostrated. Great swelling and inflammation of the hand and arm followed, with fever of a *remittent character*, but extremely severe. On the 7th day, he was delirious, and a copious perspiration solved the fever. A large suppuration had formed among the muscles of the fore-arm, which was opened, and then the patient rapidly convalesced.—*Journal Général.*

The above case may be considered, by many, as analogous to those of dissection wounds; but, if M. Dupuy proves that blood, or the contents of phlyctenæ in the spleens of animals, produce, by inoculation, similar diseased states of spleen in other animals, as he pledges himself to do in a Memoir about to be published, the case will assume an importance beyond that of common dissection wounds. We shall lay before our readers an early account of the promised Memoir.

From the Transactions of the London Medico-Chirurgical Society.

Case of Phlebitis.—This case was read at the Society on the 27th February, 1827, and the morbid preparation exhibited to the members. It was considered by those who have adopted Dr. Davis's doctrine of phlegmatia dolens, as an excellent corroboration of that doctrine; but our readers will soon see the weakness of the support thus obtained.

The patient was a young man of 26 years, conceived to be labouring under pulmonary consumption, accompanied by "swelling of both ankles." The swelling of the right ankle, however, gradually subsided, while that of the left extended upwards and increased, attended with pain about the ankle and calf of the leg, knee, ham, groin, and lower part of the abdomen. With these symptoms, the whole limb became hotter than the other, and tender on pressure. Dr. Forbes saw the patient for the first time on the 31st October, a week before his death. He was then in the last stage of pulmonary consumption. The limb was double the size of the other, "and every where it pitted on pressure." The colour of the skin was whiter than natural, and presented the exact resemblance of "common anasarca." The subcutaneous veins above the ankle were distinctly marked, and distended with blood. Died on the 8th November.

The dissection was performed by Mr. Grainger. The saphena major and its branches were greatly distended, and filled with coagulated blood, but their coats were not diseased. The cellular tissue of the whole limb was infiltrated with a limpid fluid, and the lymphatic glands in the groin were rather enlarged. The femoral vein was filled with coagulated blood.

"The dissection was continued so as to expose the left iliac veins. The trunk of the external and common iliac vessels found was even more distended than the femoral vein. The common iliac vein had an unnatural colour, approaching to a greenish hue; and it seemed as large as the inferior cava.

The distention of this vessel suddenly terminated at that part where it is united with the right common iliac vein. The left internal iliac vein was filled with blood for about two inches of its course, and the rest of it appeared natural.

"The femoral and iliac veins on the right side were nearly empty, and quite healthy in their appearance, forming a strong contrast when compared with the gorged and distended state of the veins on the left side.

"On laying open the upper part of the femoral vein, as well as the external and common iliac veins, they were found filled with a coagulum, of much firmer consistence than is usually met with in healthy veins: and had much of the fibrous appearance of the blood which is found contained in aneurismal sacs. On separating this coagulum, a thin but distinct membranous layer was seen adherent to the internal coat of the vein, and it required some force to separate them. The femoral vein, which was examined as far down the limb as the triceps muscle, was found in the same condition." 296.

We perfectly agree with Dr. Forbes that the morbid appearances in this case were very similar to those which have been described by Dr. Davis in his paper on phlegmatia dolens—but on that very account we maintain that this was not a case of phlegmatia dolens, but one of phlebitis. In a former number we have

taken such pains to disprove Dr. Davis's theory, that we need not recur to the subject again. If phlegmatia dolens depended on inflammation of the inguinal and iliac veins, three-fourths of the patients would die—whereas death does not take place in one case in the hundred where that disease is exquisitely marked. This fact would be sufficient to disprove the identity—but there are numerous others reasons for refusing acquiescence in Dr. Davis's views.—*Medico-Chirurgical Review.*

From the London Medical and Physical Journal.

EXPERIMENTS ON THE FUNCTIONS OF THE EAR.

The following details are taken from a communication, by Mr. Wheatstone, to the Journal of Science.

§ 1. If the hand be placed so as to cover the ear, or if the entrance of the meatus auditorius be closed by the finger without pressure, the perception of external sounds will be considerably diminished, but the sounds of the voice produced internally will be greatly augmented: the pronunciation of those vowels in which the cavity of the mouth is most closed, as *e*, *o*, *u*, &c. produce the strongest effect: on articulating smartly the syllables *te* and *kew*, the sound will be perfectly loud.

Placing the conducting stem of a sounding tuning-fork* on any part of the head, when the ears are closed as above described, a similar augmentation of sound will be observed. When one ear remains open, the sound will always be referred to the closed ear; but, when both ears are closed, the sound will appear louder in that ear the nearer to which it is produced. If, therefore, the tuning-fork be applied above the temporal bone near either ear, it will be apparently heard by that ear to which it is adjacent; but, on removing the hand from this ear, (although the fork remains in the same situation,) the sound will appear to be referred immediately to the opposite ear.

In the case of the vocal articulations, the augmentation is accompanied by a reedy sound, occasioned by the strong agitations of the tympanum. When the air in the meatus is compressed against this membrane by pressing the hand close to the ear, or when the eustachian tube is exhausted by the means indicated by Dr. Wollaston, the reedy sound is no longer heard, and the augmentation is considerably diminished. The ringing noise which simultaneous accompanies a very intense sound, proceeds from the same cause, and may be prevented by the same means. This ringing may be produced by applying the stem of a sounding tuning-fork to the hand when covering the ear, or by whistling when a hearing-trumpet is placed to the ear. As a proof that the resulting augmentation, which, when great, excites the vibrations of the tympanum, is owing to the reciprocation of the vibrations by the air contained within the closed cavity, it may be mentioned that, when the entrance of the meatus is closed by a fibrous substance, as wool, &c. no increase is obtained.

If the meatus and the concha of one ear be filled with water, the sounds above mentioned will be referred to the cavity containing the water, in the same way as when it contained air, and was closed by the hand: it will be indifferent whether any partition be interposed between the cavity and the external air, as the water is equally well insulated by a surface of air as by a solid body.

§ 2. The preceding experiments have shown that sounds immediately communicated to the closed meatus externus are very gently augmented; and it is an obvious inference, that if external sounds can be communicated so as to act on the cavity in a similar manner, they must receive a corresponding augmentation. The great intensity with which sound is transmitted by solid rods, at the same time that its diffusion is prevented, affords a ready means of effecting this purpose, and of constructing an instrument, which, from its rendering audible the weakest sounds, may with propriety be named a microphone.

Procure two flat pieces of plated metal, each sufficiently large to cover the external ear, to the form also of which they may be adapted; on the outside of each plate, directly opposite the meatus, rivet a rod of iron or brass wire, about sixteen inches in length, and one-eighth of an inch in diameter, and fasten the two rods together at their unfixed extremities, so as to meet in a single point. The rods must be so curved, that when the plates are applied to the ears, each rod may at one end be perpendicularly inserted into its corresponding plate, and at the other end may meet before the head in the plane of the mesial line. The spring of the rods will be sufficient to fix the plates to the ears, but for greater security ribands may be attached to each rod near its insertion in the plate, and be tied behind the head.

A more simple instrument may be constructed to be applied to one ear only, by inserting a straight reed perpendicularly into a similar plate to those described above.

The microphone is calculated only for hearing sounds when it is in immediate contact

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* The tuning-fork consists of a four-sided metallic rod, bent so as to form two equal and parallel branches, having a stem connected with the lower curved part of the rod, and contained within the plane of the two branches. The branches are caused to vibrate by striking one end against a hard body, whilst the stem is held in the hand. The sound produced by this instrument, when insulated, is very weak, and can only be distinctly heard when its branches are brought close to the ear; but instantly its stem is connected with any surface capable of vibrating, a great augmentation of sound ensues from the communicated vibrations. The facility of its insulation and communication renders it a very convenient instrument for a variety of acoustical experiments.

with sonorous bodies: when they are diffused by their transmission through the air, this instrument will not afford the slightest assistance.

It is not my intention in this place to detail all the various experiments which may be made with this instrument; a few will suffice to enable the experimenter to vary them at his pleasure.

1. If a bell be rung in a vessel of water, and the point of the microphone be placed in the water at different distances from the bell, the differences of intensity will be very sensible. 2. If the point of the microphone be applied to the sides of a vessel containing a boiling liquid, or if it be placed in the liquid itself, the various sounds which are rendered, may be heard very distinctly. 3. The instrument affords a means of ascertaining, with considerable accuracy, the points of a sonorous body at which the intensity of vibration is the greatest or least: thus, placing its point on different parts of the sounding-board of a violin or guitar, whilst one of its strings is in vibration, the points of greatest and least vibration are easily distinguished. 4. If the stem of a sounding tuning-fork be brought in contact with any part of the microphone, and at the same time a musical sound be produced by the voice, the most uninitiated ear will be able to perceive the consonance or dissonance of the two sounds; the roughness of discords, and the beatings of imperfect consonances, are thereby rendered so extremely disagreeable, and form so evident a contrast to the agreeable harmony and smoothness of two perfectly consonant sounds, that it is impossible that they can be confounded.

§ 3. Apply the broad sides of two sounding tuning-forks, both being unisons, to the same ear; on removing one fork to the opposite ear, allowing the other to remain, the sensation will be considerably augmented.

It is well known, that when two consonant sounds are heard together, a third sound results from the coincidences of their vibrations; and that this third sound, which is called the grave harmonic, is always equal to unity, when the two primitive sounds are represented by the lowest integral numbers. This being premised, select two tuning-forks, the sounds of which differ by any consonant interval excepting the octave; place the broad sides of their branches, while in vibration, close to one ear, in such a manner that they shall nearly touch at the acoustic axis, the resulting grave harmonic will then be strongly audible, combined with the two other sounds; place afterwards one fork to one ear, and the consonance will be heard much richer in volume, but no audible indications whatever of the third sound will be perceived.

§ 4. Very acute sounds, such as the chirping of the gryllus campestris, &c. are rendered inaudible by exhausting the air from the eustachian tube, and thereby producing a tension of the membrane of the tympanum: the different thicknesses or tensions of this membrane may therefore occasion that diversity of the limits of audibility, with regard to the acute sounds which Dr. Wollaston has pointed out as existing in different individuals; if so, it would be desirable to ascertain this limit in individuals in whom the tympanum is perforated or destroyed.

§ 5. When the auricula is brought forward, all acute sounds are rendered much more intense, but no sensible difference is perceived with regard to the grave sounds. The higher tones of glass staccados, or of an octave flute, the ticking of a watch, all kinds of sibilant sounds, &c. are thus greatly augmented: the experiment is easily tried, by whistling very shrill notes. A still greater augmentation of the acute sounds is obtained, by placing the hands formed into a concave behind the ears, and by bending downwards the upper part of the auricula, so as to obtain a more complete cavity.

§ 6. I will conclude with the following observation:—I had, in consequence of a cold, a very slight pain in my left ear; on sounding the regular notes of the piano-forte, C^3 and C^4 were much louder than the others, and the loudness was much increased by placing the hand in the manner above described to the left ear. When it was pressed close, or when the eustachian tube was closed, the intensities of all the notes were equalised. I attribute this affection to the diminished tension of the membrana tympani, which was again increased by the operation described.

From the London Medical and Physical Journal.

CASE OF EPILEPSY. Detailed by the PATIENT.*

Sir,—I have for some years past been myself subject to this painful and dangerous complaint, and have taken much pains to investigate its cause, and ascertain its symptoms. I have consulted many medical works upon the subject, as well as taken the opinion of medical men; but have never yet met, from one or the other, with a correct statement of the symptoms of the disorder. The description of them in both cases has been general, and such as would not inform a patient clearly whether he had epileptic fits or any other. These circumstances have induced me thus to publish my case, which I consider to be that of true and genuine epilepsy, for the use of the public at large, being thoroughly convinced that no person can so well describe the symptoms as those who, like myself, have had many attacks of it, and have attentively considered the preliminary sensations which indicate its approach.

The symptoms, as I have experienced them, are as follow:—First, sudden faintness comes on, attended by impeded respiration; a sense of tension and heat are felt on the left side of the stomach, just under the heart, which begins to beat with great violence, accompa-

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* A very intelligent man, not a member of the profession.

nied by an universal tremour. The right eye is then affected, and there is a defect of vision and great pain in the muscles of the eye; tears are forced out in considerable quantities from both eyes; the muscles of the right eye feel to be drawn to the right with great violence; and the vision is obscured by the light assuming a prismatic appearance, and during the convulsion, a perfect rainbow is seen, which appears to ascend, and the eye mechanically seems to follow it. The left eye is then affected in the same manner, but not to quite so great a degree; and the muscles of the face neck, arms, and legs, and lastly the whole body, become convulsed. The patient now falls down; the carotid artery, and the temporal arteries, throb with great force. The heart also flutters, and that with intermission; the pulsation at the wrist is scarcely felt, and sometimes is wholly suspended. The mind is filled with strange ideas of cataracts, voices, rattling of carriages, &c.; and there is great noise in the ears, arising, no doubt, from the impeded circulation of the blood through the carotid artery. The head now begins to turn round towards the right shoulder, whilst there is a sensation at the heart as if it were grasped in the hand. The eyes are violently convulsed, and the prismatic corruscations are more quick and vivid; the senses are obscured, and the breathing quick and laborious, till, in about half a minute after, the head becomes giddy, and animation (or at least consciousness) is suspended.

Till the head turns, I have not lost the power of thinking, and even asking advice, though this requires great exertion, owing to the convulsion of the mouth and throat. Having had many of these attacks, perhaps a dozen or more, I have become so perfectly acquainted with all the symptoms that occur, that I have divested my mind, by reflection, of any fear of them, and have in a few instances, once or twice, prevented their occurrence, so late as the first appearance of the corruscations, by immediately lying down on my back, and calming myself by an exertion of self-command, which, though difficult on account of fear, yet, when that is subdued by reflection, the mental operations can go on without interruption.

By doing this in time, (that is, two or three minutes after the first symptoms of faintness and impeded circulation at the heart,) and taking half a wine-glass of any spirit, I have found that the pulsation becomes more regular, the corruscations cease, and the fit is prevented. But there will still remain an unequal action of the pulse, a twitching of the tendons, a dulness and sense of weight and pain in the head, and a tendency to relapse, which requires great firmness of mind to resist. These symptoms will continue for three or four hours; and I have sometimes known them succeeded by a general shaking, like an ague, but without any sense of cold: on the contrary, there has been a glow all over the body.

The above prismatic corruscations take place at an angle with the axis of the eye, and the rays of light begin to oscillate as a perfect white light at first, of extreme brightness; they then become refracted, their corruscations increase in quickness, till they assume the most perfect and vivid appearance of the prismatic series.

The rationale of this phenomenon appears to be the convulsion that takes place in the muscles of the eye. The humours being thus thrown out of their proper form into various irregular figures by the convulsion, must naturally refract the rays of light, and thus form on the retina the prismatic spectrum, which is transmitted to the common sensorium; and this can only account for the appearance, or rather the fancied appearanec, of the spectrum when the eyes are closed. I conceive it would be difficult, if not impossible, to produce this effect by artificial means, as it would be necessary to procure a natural eye, or gelatinous substances of the same qualities in every respect, and to give them, by galvanism or other means, the convulsive motions in precisely the same manner as in epileptic fits.

There is another singular affection to which I am sometimes subject, which is a quivering light, assuming during its continuance various figures, commencing at the exterior angle of the eyes, (the right beginning first,) and going off either over the eyebrow, or next the nose. All objects viewed at this time are obscured in part by the corruscations, and the effect produced is like that of looking through a pane of glass. which by a defect in its manufacture is wavy.

This appears to be produced by a convulsion of the iris, which, rendering its contractions and irritations unequal, would naturally produce the effect described without any prismatic phenomenon.

From the Medico-Chirurgical Review.

MORBID SENSIBILITY OF HALF THE BODY.

(M. Martinet. Hôtel Dieu.)

A young man, aged 25 years, had enjoyed good health till the age of 14, when he was affected with giddiness, which returned periodically every month. On the 5th March, 1827, this young man was compelled suddenly to separate from his wife, and took the affair greatly to heart. On the evening of the same day, he was suddenly seized with a sense of weight in the right arm and leg, accompanied by a certain degree of loss of power in those parts. In this state, he fell several times while attempting to walk, and felt as if he was half intoxicated. The next day (6th,) he came into the hospital, and was in precisely the condition above described. He was bled in the evening, and sinapisms were applied to the feet. 7th. M. Martinet himself now saw the patient. The motility of the right side was but little diminished; the principal derangement was of the sensibility. The whole of the *right half of the body* (as exactly as if a line were drawn, behind and before, from the

vertex to the perineum) was exalted much in its sensibility, while the opposite side was in its normal condition. The line of demarcation between the morbid sensibility and the normal, was extremely exact. Thus, friction or stimulation on one side of the umbilicus, would excite the most insupportable feelings; while the same, on the other side, would occasion no inconvenience. A similar inequality of sensibility was observable in the two sides of the tongue and in the two nostrils; but no difference was observable in the two eyes, as to the impressions of light. The sense of smell and of taste were equal and good on both sides, though the common sensibility to touch was so unequal. Although his intellectual powers appeared unaffected, he had great difficulty, and sometimes an inability to pronounce his words, or clothe properly his ideas with language. At this he was very much vexed; and warned his medical attendants not to trust always to the words he uttered, as he was conscious of their being wrong, though he had not the power to put them right.

In other respects, this man was free from fever, slept well, and all the natural and vital functions went on regularly. *He was again bled.* 8th. He complains of acute pain in the *left* temple; but is otherwise the same as yesterday, except that the morbid sensibility of the right side of the body is somewhat diminished. *Twelve leeches to the left temple.* 9th. The pain is much relieved, and the sensibility of the right side still farther reduced. It was observed that the patient had made no water since the preceding day. *Catheterism —warm bath.* 10th. The morbid sensibility was lowered to the normal degree, except in one thigh, where it was still too great. The pain of the left temple was gone, and the patient was evidently convalescent. On the 17th, was discharged cured.

M. Martinet has headed this case "Encephalitis," and goes on to maintain that he is correct in the term. It appears that the young man, though a mechanic by occupation, was in the habit of reading a great deal of poetry, philosophy, and the belles lettres:—it is, therefore, concluded, that his ideas were habitually exalted above those in his own rank of life. After a bitter moral affliction, he is suddenly seized with weakness in the members of the right side, and a sense of intoxication. These symptoms, our author observes, must be referred to the brain. And what kind of affection was it in the brain? He can conceive no other state than that of inflammation which could produce the phenomena above described. We are of a very different opinion. We would attribute those curious symptoms rather to *irritation* than to inflammation—and we should be much disposed to consider this irritation as a sympathetic, rather than an idiopathic affection of the brain and nervous system. We could adduce many examples of a moral affliction deranging the functions of the liver, stomach, and other digestive viscera, which deranged functions affected the brain and nervous system secondarily, and induced partial paralyses, and other disorders of the brain and spinal marrow. That there may have been some degree of vascular congestion in the *left* side of the brain, in the above case, is not improbable; but we can hardly bring ourselves to denominate the disease "*Encephalitis.*" The diminution of muscular power in the *right* side of the body might certainly be owing to some fulness in the cerebral vessels of the opposite side; but, that the *super-sensibility* of that side is to be placed to the account of *inflammation* of the brain, at a time when there was no febrile symptom present, and no apparent disturbance of the vascular system, is a proposition that might startle even Dr. Clutterbuck himself.

The case, however, is very interesting in some other respects. If we find that moral afflictions can lead to, or actually produce, an inordinate degree, or, more properly speaking, a *morbid sensibility* in one half of the body, is it unreasonable to believe that the same causes may, in other instances, produce a similar morbid sensibility in certain surfaces of the interior organs, as of the stomach and upper intestines? We are convinced that these moral causes do very commonly produce this effect; but, as the sensibility of these surfaces is *organic* and not common sensibility, so the *effects* are masked, and show themselves in a host of anomalous symptoms, which are puzzling in the extreme to the medical practitioner.

From the Lancet.

OBSERVATIONS ON THE DISSECTING AND PREPARING OF THE BODIES OF ANIMALS.

Though the art of anatomizing the bodies of animals is essentially the same as that practised upon the body of man, and though want of space precludes me from treating the subject minutely, I conceive that a few remarks may not be altogether unacceptable to those who feel desirous of pursuing such studies for themselves.

The first thing that I have to observe is, that all dissections of small soft objects, e. g. worms, zoophytes, insects, mollusca, and embryos, where it is desirable to obtain even tolerably accurate results, should be performed *under water*, by which the parts are kept floating and separated from each other, and, consequently, present themselves more distinctly. A very simple contrivance for investigations of this kind, may be prepared in the following manner: a mass of tough wax (not too soft) is to be laid upon one or more porcelain saucers or capsules of different sizes, which are then to be put in a warm place until the wax melts, so as to cover the surface evenly to the depth of one-half or one-third of an inch. If the object to be examined be laid upon this surface, it may be fixed by needles in any position that is wished, and when covered with clear water, developed and dissected by means of suitable instruments.

Of them, the best are very delicate forceps, pointed, well made, sharp cutting scissors, and small knives like cataract needles, some round, others with cutting edges, and fixed in slender wooden handles. For separating parts, I have also employed small horn probes, and fine brushes; whilst, for examining them, a good magnifying glass is frequently indispensable. If it is wished to preserve a preparation thus made, wax coloured at pleasure as for the purpose of injections, is to be formed into little tablets about one-fourth of an inch thick; one of these is then to be placed upon the saucer or capsule containing the preparation; the latter may then be transferred to it, arranged suitably upon it, fixed there by means of short needles, and both together then placed in alcohol. Nor must I forget to mention, that the examination of very delicate organizations may frequently be conducted with greater facility and accuracy, if the object be previously allowed to remain some time in spirit, and thereby to become harder and contracted. This applies particularly to the dissection of nervous organs, and to the examination of very small embryos, of mollusca, and worms.

There are various modes of destroying worms, insects, mollusca, &c., for the purpose of dissecting, without injuring their organization: mollusca and snails, for instance, as Swammerdam has remarked, are to be allowed to die in water, because by that means their body swells, and all the parts become more distinctly visible; they may afterwards be kept in spirit (though not too long) for dissection. Worms, the larger zoophytes, (for the smaller must be examined whilst alive,) caterpillars, &c., and also the smaller amphibia and fishes, are best destroyed by means of spirit. Insects, on the contrary, by being dipped rapidly in boiling water, or in oil of turpentine.

As regards the dissection of larger animals, we may here use with advantage knives of a large size, and instead of forceps, suitable hooks with handles.

In animals of a considerable size, we can generally make artificial skeletons only, after the bones have been sufficiently cleaned by boiling or maceration. In smaller animals, on the contrary, such as birds, amphibia, and fishes, of which last it is very difficult to make good skeletons, the object will be best accomplished by at once making the bones as clean as possible, without injuring the capsular ligaments, soaking the preparation in water that is incessantly changed, and, lastly, bleaching it for some time in the sun.

Lastly, we may mention injections as affording a very essential assistance in zootomical investigations for physiological purposes; in small animals, and in the more minute parts, these must consist of compositions with wax, very fluid and coloured; but above all, of mercury. The latter, however, is not suitable for very soft bodies, e. g. medusæ, &c., in which cases we may employ injections of coloured milk and similar substances. *Gore's Translation of Carus's Comparative Anatomy.*

Medical and Philosophical Intelligence.

The Archives Générales de Médecine contains some observations by M. Mirault on the method of operating for fistulæ of the parotid duct, as originally proposed by M. Deguise, and modified by Beclard. This operation, it will be remembered, consists in a simple vertical incision four lines in length, passing through the centre of the fistulous opening, and penetrating as far as the buccinator muscle. At the bottom of the incision, corresponding to the orifice of the duct, two punctures are made into the mouth, by means of a trocar, in contact externally, but diverging horizontally as they proceed inwards, so as to resemble the letter V, the diverging branches including of course a portion of the buccal parietes. The two extremities of a leaden wire are next passed through the punctures from without inwards, and either bent so as to form an obtuse angle in the mouth, or twisted together as recommended by Beclard. The external incision is united by means of the twisted suture. This mode of procedure has been practised by Beclard in several instances with the most entire success; the cure being completed in a much shorter time than by the ordinary method. To obviate the inconvenience attending the long continued presence of the wire in the mouth, a period sometimes extended to several months, and the difficulty of tightening it so as to enable it to make its way through in a shorter space of time, M. Mirault proposes a thread ligature, of which the extremities passed through a serre-nœud can be tightened at pleasure. A case is detailed in which this substitution was made; it failed, however, owing to some peculiar circumstances, and the leaden wire was ultimately resorted to with success. With a view to suspend the flow of saliva twenty-four or thirty-six hours, the trocar was passed in this instance, above and below the extremity of the duct, so as to include and compress the latter in its flexure, this modification would be useless in a case of simple fistula. In order to avail himself of the facility afforded by the canula, to pass the second end of the ligature, M. Mirault caused the instrument to be made without the wing, and was thus enabled to extract it through the mouth. For want of such a contrivance M. Beclard made one of the punctures from within outwards.

Six cases of erysipelas are related by M. Bonet, successfully treated by the application of leeches to the affected part. In one instance, the disease, situated upon the head, neck, and anterior part of the thorax, had been treated by emetics, cathartics, and venesection from the left foot, and had ultimately passed into a chronic state; an exacerbation occurring every seven or eight days. Wearied with such a state of things, which continued during six weeks, M. Bonet directed the application of twenty-two leeches to the part, and two hours after the *hirudination*, the erysipelas entirely disappeared, to return no more. In the other cases, its remedial agency was almost equally apparent. M. Gros, appointed by the academy to report upon the memoir of M. Bonet, remarks that the plan pursued by the latter, is not always the best adapted to the treatment of erysipelas; instances being numerous in which emetics, &c. have succeeded, after depletion, both general and local, had been tried ineffectually. It is particularly inapplicable to cases preceded by bilious symptoms, and accompanied by a moderate degree of fever; when, on the contrary, the pulse is hard and frequent, and the febrile action runs high, more favourable results may be anticipated.—*Nouv. Biblioth. Méd. &c.*

Diuretic Properties of the Equisetum.—The different species of this plant have been highly extolled by Professor Leuhossek of Vienna, as active diuretics, not affecting in their operation the digestive, circulatory, and cerebral functions, and in this respect, therefore, preferable to the digitalis, colchicum, and other remedies of that class. In atonic dropsies, and those consequent upon exanthematous diseases, they have appeared to him to produce their best effect; and to be, on the contrary, contra-indicated in cases attended with increased vascular action. The diuretic property, though possessed by all the species of the genus, is much more energetic in the *equisetum hiemale* and *e. limosum* than in the others, to the extent, in some instances, of producing hæmaturia. In its recent state, the equisetum evinces great activity, and it is on this account that Professor Leuhossek gives the preference to the dried plant. It is administered either in powder or decoction, the latter is generally preferable; two or three drachms of the vegetable are boiled in a pint of water during a quarter of an hour, and of this decoction, one or two spoonfuls are given to children, according to circumstances, and from three to six ounces to adults.—*Jour. de Chimie Médicale, &c.*

MM. Chevallier and Rayer, recommend the administration of the hydro-sulphuric acid and the alkaline hydro-sulphurets in the colic arising from lead. A pound of water, holding in solution twelve grains of carbonate of soda, is saturated with the acid, and afterwards mixed with nineteen pounds of the same fluid; or, five grains of the sulphuret of potash may be dissolved in one pound of water; either of these solutions is given in quantity proportioned to the presumed amount of lead introduced into the system, with a view to its neutralization. Cathartics to obviate constipation, and opium to relieve pain and procure sleep, are employed conjointly with the preceding remedy.

This plan of treatment has been employed by M. Rayer at the Hôpital de la Charité, in several cases, with entire success; the disease sometimes disappearing after the second day, often after the third or fourth, and rarely being prolonged to the sixth day. No instance of relapse has hitherto fallen under his observation—*Ibid.*

Perforation of the Intestine—Don José Benito, licentiate in medicine, was requested to visit a woman, forty-four years of age, who had been long troubled with worms, which were frequently discharged both by the mouth and anus; she was then suffering under an acute attack of enteritis. The violence of the symptoms rapidly yielded to the repeated application of leeches, aided by a rigorous diet, emollient fomentations, &c. The fever, however, did not entirely disappear, and some degree of pain still continued in the right groin; the patient mentioned, that for the last two years, she had had in that part, a tumour about the size of a nut—she would not permit an examination. Fomentations, diet, &c. were directed. The two following days, the tumour increased in size, with an augmentation of temperature, pulsating pain, &c.; bilious vomitings supervened, and there was aggravation of all the symptoms. An examination being made at this period, the swelling was found to possess the characters of a common phlegmon, extending upwards upon the abdomen, and downwards upon the thigh, to the extent of some inches. The fourth day of the local inflammation, there was an evident fluctuation in the tumour, and towards evening a gangrenous spot was observed upon its centre; a lancet introduced into this part gave exit to a dark grayish matter, and on examining the abscess, an ascaris lumbricoidis was found in its cavity. A female catheter, directed towards the crural arch, gave passage to a quantity of gas, and another worm was discharged. Compression was applied upon the wound, a horizontal position, &c. enjoined, and it was shortly reduced to a fistulous opening, from which were discharged worms and liquid fæces at each renewal of the dressings. Anthelmintics were prescribed, the compression upon the wound augmented, and an entire cure was ultimately affected.—*Diario General de las Ciencias Medicas.*

Belladonna.—The alleged preventative property of this article in cases of scarlatina, induced Dr. Velsen of Cleves, to test its efficacy in an epidemic which prevailed at that place during the past year. The number of those to whom it was administered amounted to 247, of both sexes, and of every age, from infants at the breast, to adults of forty or fifty

years. Two grains of the extract were dissolved in two ounces of distilled water, to which was added two drachms of alcohol, and of this solution, five, ten, fifteen and twenty drops, according to the age of the person, were taken twice a day. The administration of the medicine was continued during the prevalence of the epidemic. Of the 247 who were the subjects of the experiment, thirteen only contracted the disease, and in them, according to Dr. Velson, it assumed a milder character than in those who were not submitted to this preventative treatment. The following are the conclusions which he has drawn from his observations: 1st, in the great majority of cases the belladonna is a preservative against scarlet fever; 2d, where it fails to produce this effect, the disease is much milder than in cases where it has not been given; 3d, administered according to the preceding formula, it is productive of no unpleasant consequences.—*Journal Complémentaire, &c.*

Chorea.—M. Lisfranc, has lately successfully treated a case of chorea, by general bleedings, and the repeated application of leeches to the upper part of the spine; he had adopted this mode of treatment, from having been informed by M. Serres, that he had almost always found the tubercula quadrigemina in a state of inflammation, in the bodies of those who died of chorea. In four cases of this disease examined by that gentleman, he found the tubercula quadrigemina diseased; in one, a fatty tumour was developed on these bodies; in another, there were marks of considerable excitement, with bloody effusion at their base; in the two last cases, the whole of the substance of the quadrigemina was inflamed, and the inflammation extended to the roof of the fourth ventricle. The symptoms appeared to him to have some connexion with an injury of this part of the brain. M. Serres tried experiments on living animals, and found that those in which this part of the brain was injured, had motions similar to those observed in chorea. M. Rolando had also observed this fact in his experiments. M. Serres was not however disposed to conclude, that in every case of chorea the tubercula quadrigemina were diseased; he had seen several in which no lesion of the brain could be discovered. As persons afflicted with this disease generally experience great pain at the back part of the head, above the region of the neck, he had been induced to apply remedies to this spot, and in this way had often cured the complaint in its acute state; but when it becomes chronic, the frequent application of leeches in the neighbourhood of the supposed seat of the disease, is productive of no benefit.—*Jour. General de. Med.*

The regeneration of the nervous tissue, long denied by some physicians, and as confidently affirmed by others, appears at present to be admitted as an indisputable fact. M. Prevost has repeatedly made the experiment on kittens, of removing portions of the pneumogastric nerve on each side, at longer or shorter intervals, and has arrived at the following conclusions. 1st, in order that the nervous influence be re-established, it is not enough that the nerve be connected by the cellular tissue, which soon interposes itself between the divided extremities; 2d, it is indispensable that the nervous fibrillæ be prolonged through this intermediate substance, from the superior to the inferior exeremity; 3d, this prolongation does not take place till after a considerable lapse of time. The elongated filaments are not in regular juxtaposition as in the other parts of the nerve, but separated from each other as if they had traversed with difficulty the interposed cellular tissue.—*Bull Univ.*

Tuberculous Excrescences on the Hands and Feet; by the late Dr. Behrends, communicated by Dr. G. Soemmering.—The excrescences, which were of a horny consistence, and firmly adherent to the parts beneath, occupied the palmar surface of the hands and fingers, and the soles of both feet. The unfortunate sufferer was entirely deprived of the use of his limbs, by reason of the acute pain occasioned by the slightest pressure upon the tubercles. M. Soemmering refers to three analogous cases, one related by Behrends in the Medizinich-Chirurg. Zeitung, and two others by Dr. Ash, and subjoins some general remarks upon the nature of the disease, &c. It is the ichthyosis cornea of authors —*Litterar. Annal. der ges. Heilkunde.*

Osseous Concretions in the Substance of the Placenta; by Professor Carus.—These bony or calcareous concretions are more frequently met with at certain periods than at others, without its being possible to assign any cause for this difference. In the city and environs of Dresden, it is calculated that they occur in the proportion of two or three cases in the hundred, and that out of an equal number, there are from five to eight cases of granulated indurations in the tissue of this viscus. Women of a scrofulous, cachectic constitution, and those affected with nervous diseases, present examples of this degenerescence more frequently than others, especially at the approach of the climacteric period of life. The concretions are seated on the uterine surface of the placenta; M. Carus has never observed them on the fœtal portion; they are not disseminated through the tissue of the organ, but concentrated towards some particular parts. Their consistence varies from that of coagulated albumen to a stony hardness, and to the touch they are not unlike the sabulous substance of the pineal gland. According to the analysis of Professor Ficinus, albumen in small quantity, carbonate and phosphate of lime, a minute proportion of phosphate of magnesia, and slight traces of sulphuric acid, doubtless combined with some salifiable base, were found to enter into their composition. In regard to the origin of these concretions, it is evident that they arise from the mother, whose health is already impaired in the greater

number of cases. M. Carus compares the process of their formation to that of the production of the solid covering of the egg in birds, &c. and cites in proof of his opinion, the phenomenon of the calcareous incrustation of the fœtus in prolonged uterine and extra-uterine pregnancies.

The effects of these morbid productions are oftentimes inappreciable; frequently, however, it is otherwise, and adhesions of the placenta, producing hæmorrhages, hysteritis, &c. &c. are not unusual consequences. May they not also exert some influence upon the development and life of the fœtus.—*Bull. Univ.*

Living Worms in the Circulation.—In making some microscopical observations on the circulation of the blood in the mesentery of the rana bombina, M. Schmitz accidentally discovered these animalculæ, figures of which he has given. They were only observed in two individuals of the species above designated, out of fifty-five which were examined. These researches were extended to lizards, salamanders, and the common frog (rana temporaria et esculenta) but nothing similar was observed. The insects observed by M. Schmitz strongly resemble the polypoma venarum of Treutler.—*Litterar. Annal. der ges. Heilkunde.*

New Experiments upon the extracts of Quassia, Simarouba, &c. by Dr. Buchner. One grain of the alcoholic extract of quassia applied to a wound on the thigh of a rabbit, did not appear to produce any marked effect upon the animal, and no inflammation was excited. Notwithstanding which, the animal became melancholy and died, thirty hours after the experiment. Nothing remarkable was observed upon dissection. The same experiment, repeated on a larger rabbit, was attended with a similar result.

An alcoholic extract of simarouba bark employed after the same manner, produced a similar result; two grains caused the death of the animal in twenty-four hours, without pain or inflammation. M. Buchner infers from these experiments, that the quassia amara and q. simarouba owe their activity to the same principle, quassine, and that this should be classed with the narcotic alkaloids.

The yellow bitter principle of colombo, is not only soluble in water and in alcohol, but also in ether. Acetate of lead does not precipitate it from its aqueous solution, from which it may be presumed, that this principle belongs also to the alkaloids.

One grain of the dry etherial extract of colombo was dissolved in water, and introduced into a wound made on a rabbit, the animal died in ten hours, without evincing any signs of pain or inflammation. Three grains of the alcoholic extract produced death at the expiration of three days; in this instance violent inflammation occurred, and it was ascertained upon examination, that the extract had not been entirely absorbed. This plant, belonging to the genus minispermum, of which the m. cocculus is a species, affords some support to the presumption that it contains an alkaloid principle.

An experiment made upon a rabbit with three grains of an alcoholic and etherial extract of gentian produced no effect whatever.

With MM. Robiquet, Guibourt, et Chereau, M. Buchner has been unable to detect *esculine*, an alkaloid principle announced by M. Cauzoneri as existing in the chesnut of the Indies. The yellow substance obtained by the action of alcohol, appears, together with gentianine, to be of the nature of colouring matter; applied to a wound it was equally innocuous with the extract of gentian, and should not therefore be classed among the vegetable poisons.—*Bull. Univ.*

M. Lisfranc read to the *Academie Royale de Médecine*, a case of fatal hemorrhage from the wounds made by leeches, occurring in a female labouring under gastritis; the peculiarity of the case consists, in that up to the third day, not a drop of blood had flowed from the punctures; the woman retired to rest as usual, and the following morning was found dead, bathed in her blood.—*Revue Médicale.*

A more recent journal contains an instance of death from the bite of a single leech, a short distance beneath the umbilicus. The patient, a young man, was brought to the Hôtel Dieu, in a state of insensibility. The abdomen was covered with blood, which still continued to issue from the wound. M. Miquel immediately cauterized the part, and thus arrested the hemorrhage, but his assistance came too late to be effectual; the patient dying half an hour after his entrance into the hospital.

According to MM. Edwards and Vavasseur, the middle and inferior cervical ganglions of the great sympathetic, exert no immediate influence upon the motion of the heart: they adduce the following experiment, repeatedly performed upon dogs and kittens, in support of their assertion. After having opened the chest of the animal, they extirpated the middle and inferior cervical ganglions, and it was invariably observed, that the action of the heart continued with the same regularity for the space of thirty minutes, and in some instances even an hour, although the respiration ceased immediately after opening the thorax.—*Annal. des Sciences Nat.*

According to an Analysis made by M. Dulong D'Astafort, the root of the polygala senega contains—1st. A peculiar matter, not alkaline, of a very acid taste, resembling that of the plant from which it was derived. This substance M. d'Astafort regards as the active principle of the senega.

2d. Resin. 3d. Gum. 4th. A substance analogous to wax. 5th. A yellow colouring matter. 6th. A principle reddening by the action of concentrated sulphuric acid. 7th. *Acide pectique.* 8th. Phosphate of lime. 9th. The super-malates of potash and lime. 10th. Sulphate of potash. 11th. Chlorure of potassium. 12th. Iron. An analysis of the same plant, by

M. Feneulle, is much in accordance with the above. The following are the results which he has obtained. A yellow colouring matter, a bitter substance, gum, *acide pectique*, albumine, a volatile oil, fixed oil, super-malates of lime and other salts. The yellow colouring matter is the resin of M. Dulong, and the bitter substance, that which this gentleman considers as the active principle of the polygala; as obtained by M. Feneulle, it was combined with a small quantity of colouring matter.—*Journal de Pharmacie, &c.*

M. Julia Fontanelle exhibited to the *Institut Royal de France*, beautiful specimens of a very white paper, which M. Poisson and himself had manufactured solely from the *glycyrrhiza glabra*. It does not require sizing. M. Fontanelle confidently anticipates still more satisfactory results. MM. Chaptal and Darcet were appointed commissaries to report upon this communication.—*Nouv. Bibloth. Méd. &c.*

Singular Effect of Cantharides.—Dr. Ammon advised the application of a blister to the chest of a person labouring under a slight attack of pleuritis, which had not entirely yielded to local depletion; the patient objected to its employment, alleging that a similar application some years before, had produced a severe blenorrhœa, which continued more than five weeks, notwithstanding an appropriate treatment. The blister was however applied, and produced its usual beneficial effects; some days after, the disease returning, the blister was renewed, and was followed by the appearance of a deep and suppurating ulcer on the glans penis; it presented none of the ordinary characters of syphilis. A solution of the acetate of lead was directed for the ulcer, under which treatment it healed in the space of three weeks.—*List. Annal. des ges. Heilk.*

In dissecting a fœtus, which had arrived at the sixth or seventh month of utero-gestation, Dr. Wedemeyer was much surprised to find, instead of the anus, a sort of pouch, containing a substance resembling the placenta, obliterated umbilical arteries, and a fœtus which appeared to have lived four or five months. Putrefaction had so far advanced, that it was impossible to distinguish all its parts; the head, sacrum, and several of the vertebræ were, however, distinctly visible. The sac enveloping these remains, communicated neither with the abdominal cavity or vertebral canal of the other child. The rectum of the latter terminated in a cul de sac.—*Jour. fur Chirurg. und Augenheilkunde.*

Progress of Medicine in Turkey—A treatise on anatomy, accompanied with plates, and written in the Turkish language, was published some years ago by Chani Zadeh, a member of the corps of Oulema; since which period, several improvements have been made in the medical department of that country; among others, the erection of several military hopitals, by order of Chosreü Pacha. One of them, in the vicinity of the mosque Chehtzade, is situated opposite the medical school with which it is connected; it is placed under the superintendence of well informed physicians, is well organized, and affords a source of clinical information to the students of medicine. The school and hospital are both comprised under the name of Tibchana. The majority of the students consists of young men whose fathers are employed in the service of the state, they have a particular uniform, are boarded, receive a monthly pension of 20 piastres, and are gratuitously instructed in the various sciences necessary to the profession for which they are destined. Besides their native language, they are taught also, the French, Italian, Arabic and Persian. The Hekim Bachi, or first Physician of the Sultan, presides at the head of this institution.—*Bull. Univ. &c.*

Indelible Writing.—As the art of man can unmake whatever the art of man can make, we have no right to expect an *indelible ink:* however, a sort of approximation to it may be made as follows:—Let a saturated solution of indigo and madder in boiling water be made, in such proportions as give a purple tint; add to it from one sixth to one eighth of its weight of sulphuric acid, according to the thickness and strength of the paper to be used: this makes an ink which flows pretty freely from the pen, and when writing, which has been executed with it, is exposed to a considerable, but gradual, heat from the fire, it becomes completely black, the letters being burnt in and charred by the action of the sulphuric acid. *If the acid has not been used in sufficient quantity to destroy the texture of the paper, and reduce it to the state of tinder, the colour may be discharged by the oxymuriatic and oxalic acids, and their compounds, though not without great difficulty.* When the full proportion of acid has been employed, a little crumbling and rubbing of the paper reduces the carbonaceous matter of the letters to powder; but by putting a black ground behind them, they may be preserved, and thus a species of *indelible writing* is procured, (for the letters are, in a manner, stamped out of the paper,) which might be useful for some purposes, perhaps for the signature of bank-notes.—*Quart. Jour. &c.*

Cantharides.—M. Farines, of Perpignan, has communicated to the Academy some interesting facts relative to these insects. It appears that their soft parts become the prey of another insect of the *acarus* tribe, whose attacks the hard parts of the lyttæ are capable of resisting. He has ascertained that the excrement of this *acarus* possesses a vesicatory property; but that, from experiments made with the powder of sound cantharides, that of mouldy cantharides, and that of the hard parts which escape the voracity of the parasite, the following inferences are to be drawn:—The first of these possesses the power of raising blisters; that the second is vesicatory in a minor degree; and that the third is inferior in this re-

spect to both the others. Mouldy flies may therefore be employed, but the quantity must be increased.

It is evident that the active principle of the cantharides resides in the soft parts of the insect. Camphor is not a protector against the *acarus;* and M. F. is of opinion, that the only preservative is the pyroligneous acid.—*Bull. Univ.*

Fallacy of Infusion of Litmus as a Test, by M. Magnus.—When pure water is heated for a sufficient time with infusion of litmus, reddened by an acid, it restores the blue colour. It is supposed that the heat gradually causes the free sulphuric acid, which had occasioned the reddening, to combine with the excess of alkali contained in the infusion, and thus to cause the restoration of the blue colour. Hence this preparation cannot be used to test the presence of ammonia in a solution, as water alone produces the effect anticipated from the alkali. The earthy salts contained in ordinary water also produce this effect.

Jour. de Pharmacie.

New Metals in the Uralian Platina.—The discovery of these metals by Professor Osann of Dorpat, is announced as follows, in Hensman's *Repertoire de Chimie* for September last.

"I have discovered in the platina of the Uralian mountains three metals, the properties of which are different from those of every other known metal. One of them occurs in the residuum left by the solution of the platina in aqua-regia, which is sold at the mint in Petersburgh. I have as yet found it only in one specimen of the metal.

"The oxide crystallizes in long prisms from the nitro-muriatic solution of the platina: these crystals sublime without undergoing any change, but at a higher temperature than required for the sublimation of oxide of osmium. Subjected to the blowpipe a portion of the salt sublimes, while another is reduced to a globule of metal. Sulphuret of ammonia converts the reduced metal to a gray sulphuret, which readily fuses, and burning in the air, it is converted into oxide.

"The second metal is found in the nitro-muriatic solution of the same platina; it possesses the following properties. The solution yields white acicular crystals, which soften in the heat of melting glass, and are reduced to the metallic state. Hydrogen reduces it to a metal of a gray colour with a tint of red: this metal did not melt, but retained the crystalline form of the oxide. Aqua-regia readily dissolves it, and sulphuret of ammonia precipitates it of a brown colour: the precipitate being roasted in contact with air, becomes of a blackish-brown colour. These two metals are found in very small quantity in the Uralian platina, the latter in greater proportion than the former.

"The third metal is also found in the nitro-muriatic solution of platina: this metal possesses the singular property of forming an alloy with iron, which is not decomposable by nitric acid. By using this alloy with caustic potash and nitrate of potash, the iron is sufficiently separated to be taken up by nitric acid; the residuum after this separation is a dark green coloured powder, and is the oxide of the metal. When put upon a piece of platina and heated to whiteness, the powder is blackened but not reduced; but when exposed to the flame of the blowpipe, it becomes a metallic mass of considerable lustre. The metal thus obtained has the following properties: It is insoluble in nitro-muriatic acid, even when heated; when fused with caustic potash and nitre, it yields a brownish coloured mass, which softened by water deposits a gray powder still retaining some lustre; the alkali dissolves nothing, and the powder is merely the metal in a divided state, in which aqua-regia attacks it slowly, and converts it eventually into green oxide. By directing a current of hydrogen gas upon the heated oxide, combustion resembling that of gunpowder ensues, and a blackish powder is formed, which by the long reaction of the hydrogen is completely reduced. The metal thus reduced has a gray colour, nearly resembling recently formed spongy platina. When heated in contact with the air it becomes black, and continues so even at a white heat: it differs in this respect from rhodium, which is oxidated by heat, and at a higher temperature is again reduced.

Metal of Alumina.—M. Oersted is stated to have obtained the metal of alumina by employing the chloride of that earth. Pure alumina is heated to redness, and then intimately mixed with powdered charcoal: the mixture is introduced into a porcelain tube; and after heating to redness, dry chlorine gas is passed over it. The charcoal reduces the alumina, the metal combines with the chlorine, and oxide of carbonis also formed. The chloride of aluminum is soft, crystalline, and evaporates at a little above the temperature of boiling water; it readily attracts moisture from the air, and becomes hot when water is added to it. By mixing with an amalgam of potassium, containing much of the latter, and immediately heating the mixture, chloride of potassium is formed, and the metal of the alumina combines with the mercury. The amalgam quickly oxidizes by exposure to the air. Being subjected to distillation out of the contact of air, the mercury is volatilized, and a metallic button is left, which has the colour and splendour of tin. M. Oersted has ascertained many properties belonging to the new metal and its amalgam, which he promises to publish speedily.—*Ibid.*

Anatomical Plates.—The work of Antommarchi, the physician of Napoleon, consisting of anatomical plates of the human body, the size of the natural subject, has for some time been completed, and is the greatest, as well as the most complete undertaking of the kind

ever attempted. The entire number of plates and sketches is eighty-three; the cost about twenty guineas plain, and rather more than double that sum coloured, on vellum. There are among them eight full-length figures, exhibiting the several layers of structure, from the surface to the skeleton. There are likewise accurate representations of the viscera of the three great cavities, their nerves, blood-vessels, lymphatics, the organs of generation in both sexes, &c. &c. The first series is very minute, and displays the various tissues in an admirable manner.

A folio volume of description accompanies the plates.—*Lond. Med. Repos.*

Cotton of the Ancients.—The synonymy of the vegetables known to the ancients, is one of the most difficult points of science to establish, and is a continual subject of regret, especially when reference is made to vegetables, which have been extensively employed. M. Mongez has therefore rendered a service to science, by clearing up this part of the history of cotton, in a memoir lately published. Two very different vegetables have been confounded under the name of cotton, the *Bombax* and the *Gossypium* or cotton tree. It is the former of these that was designated by Herodotus, as well as by Strabo, who relates, that the Macedonians employed in Babylonia the down of the tree which bears wool to make housings for horses. Theophrastus speaks of both. The substance which Virgil mentions as fabricated by the *seres*, is the cotton which came from Bactria, called *serique*. The *Gossypium* was only cultivated in Egypt after the time of the Ptolemies; in the Western Morea, in the secondary century. Asia and Persia, among other countries, already possessed very celebrated manufactures of cotton. It was used as a substitute for papyrus, and the parchment which succeeded it, until it was itself replaced by paper made from flax and hemp. The word *cotton* evidently comes from *g'hotten*, by which the Arabians, who cultivated this vegetable before the commencement of our era, designated it, and from *Cottonara* (now *Canora*,) a country on the coast of Malabar, from which the Arabians and Egyptians carried it into their respective countries.—*Ed. New Phil. Jour.*

Common Sugar existing in the form of grains in the flowers of Rhododendron ponticum.—M. Jaeger discovered, in April 1825, on a plant of rhododendron ponticum, which he kept in his room, and which was covered with flowers, grains of common sugar, pure and of a white colour, on the inner surface of the upper division of the corolla. The quantity of grains collected from about 140 flowers amounted to 275 centigrammes. The mean weight of each grain was two centigrammes. The physical and chemical properties of these grains approach so much to those of common sugar, that no essential difference could be detected between the two substances.—*Ibid.*

Remarkable Hybrid.—"There is here at present an animal produced between a stag and a mare. The authorities of the place have attested the phenomenon. The appearance of the creature is very singular; the fore part is that of a horse, the hinder part that of a stag; but all the feet are like those of the latter animal. The same stag has covered another mare. The king has purchased the hybrid for the *Pfaueninsel*, where there is a menagerie."—*Extract of a Letter to M. de Ferussac, dated Berlin, 27th January*, 1827.—*Ibid.*

Vegetable Torpor observed in the Roots of the Black Mulberry-tree.—A very old mulberry-tree was broken into four quarters by the wind in 1790. Two of the quarters were destroyed, the other two remained growing for a few years, but the last of them was removed in 1802. An elder-tree grew in the place of the mulberry-tree, without doubt from berries which had fallen into the middle of the old trunk of the latter. This elder-tree died in 1826, and at the time of its languishing about a dozen of mulberry shoots started forth to the day. M. Dureau de la Malle ascertained that these did not spring from seeds, but from the roots of the old mulberry-tree, which had thus lain in the ground in an apparently inactive state, for 24 years, to send forth shoots at last.—*Ann. des Sciences Nat.* ix. 338.

Method of increasing the Odour of Roses.—For this purpose, according to the author of the method, a large onion is to be planted by the side of the rose tree, in such a manner that it shall touch the foot of the latter. The roses which will be produced will have an odour much stronger and more agreeable than such as have not been thus treated, and the water distilled from these roses is equally superior to that prepared by means of ordinary rose leaves.—*Œkonom. Neuigk.;—Bull. Univ.*

The Manna Gum Tree—Manna Eucalyptus.—The trees blossom from November till May. In those and the intermediate months, the manna falls, the weather being hot and dry. The quantity of manna depends upon the number of flowers which the trees and seasons produce, as the manna proceeds from the flowering-cups, which are full of honey. Those cups become the seed-vessels; they grow very thick on the tops of the branches, and form, with the cups, the distinguishing character of the genus, as named by the French botanists. The flowers are much thicker on this than they are on others of this genus that I have observed, which abound in New Holland.

The flowering-cups, or seed-vessels, being filled with the sweet juice, as the wind gently moves the branches, it falls on the leaves,—these congeal by the heat of the sun, and fall to the ground in white lumps, of various shapes and sizes. It sometimes falls so abundantly as

nearly to cover the ground under some of the trees. The ants devour it very fast, and they are always very numerous under the trees: probably it is to them a delicious food.

The manna gum tree is, when in full growth, and in rich alluvial soil, a very beautiful tree, affording, in the hot season, a very agreeable shade; it is of a large size, and I have seen it, when full grown, five feet in diameter at the but, and of considerable height. It sheds its outer bark, which peels off throughout the year. The bark is of a bluish white; the foliage of a very dark green, very thick and pendant on the tops of the branches. The wood of this species of eucalyptus is remarkable for its resistance to fire, probably from the saccharine nature of its sap; and, in a state of decay, it becomes arid.—(*Australian.*)

Swedenborg's Doctrine of Craniology.—The following observations, which we have accidentally met with in an old volume of the *Goetingische Taschenkalender*, will be considered by some, as another confirmation of the truth of the saying, that "there is nothing *new* under the sun." Without supposing that Dr. Gall borrowed any of his notions from the source here indicated, it is interesting to observe how similar were the views entertained by the Swedish theologian on the influence exercised by the different parts of the brain upon the form of the human skull.

Captain F. Walden published at Copenhagen, in 1806, a biography of the celebrated Swedenborg,* along with some extracts from his writings. It is very remarkable, as is shown by this work, that the distinguished Swede, about fifty years previous to Dr. Gall's theory, should have entertained a very similar opinion. The following are the words of Swedenborg:—

"Every man that is born has a disposition to all sorts of evil, which must be checked by education, and as far as possible, rooted out. This is first to be attempted by correction and punishment, then by good society and example, which lead to imitation, and at last good is secured upon a true and reasonable religious root. When these conditions are all observed, it is indicated by the beautiful skull of the individual. On the contrary, should the education be neglected, or no sudden misfortune nor opposition hinder the first outbreakings of evil or disorder, the evil afterwards becomes habit, and produces peculiar wishes both in design and practice, which cause the formation of a badly shaped skull. The cause of the difference of skulls in such cases, is this: the peculiar distinctives of man, will and understanding, have their seats in the brain, which is excited by the fleeting desires of the will, and the ideas of the intellect. Near the various spots where these irritations produce their effects, this or that part of the brain is called into a greater or less degree of activity, and forms, along with itself, corresponding parts of the skull."

* The title of this interesting work is "Assessor Svedenborg's Levnet, Adskillige Udtog af sammes Skrivter nogle blandede Tanker, tilligemed Svedenborg's System i kort udfog. Kiobenhaven, 1806.

Urinary Concretion of unusual dimensions.—We have been favoured by Dr. John King, of Irvine, with the inspection of a urinary calculus of a very extraordinary size. Its weight, after being thoroughly exsiccated, was 13,000 grains, or 27 ounces 40 grains. Its length was 5.56 inches in one direction, its diameter was 3.37 inches, and in another direction 3 inches. Its longer circumference was 15 inches, in another direction 14.12 inches, and its transverse circumference was 10.37 inches. It was externally of a grayish white colour, and its surface slightly tuberculated.

The patient from whom this stone was taken after death, was from his infancy afflicted with severe pain in voiding his urine. The pain did not remarkably increase until about the fourteenth year of his age, when the symptoms becoming more severe, he had recourse to the usual palliatives, but found no permanent relief.

He continued his usual occupation, which was that of a carter, for the space of twenty-six years afterwards, never exempt from the most acute pain. In the earlier part of this period he was repeatedly advised by several medical gentlemen and Dr. King, to undergo an operation, but to which neither he nor his relations would consent.

During the last six years of his life he was unable to follow his ordinary occupation; and was confined to bed, and when, about four months before his death, Dr. King was again called in, he told him he was willing to submit to any thing that would tend to give him ease. But from the enlargement of the stone, which could be felt externally, Dr. King deemed an operation impracticable. On his death, Dr. King requested leave of his relatives to inspect the body, which was readily granted, as it had been his dying request. He found the inguinal glands diseased, and, on laying open the bladder, the stone above described. He died in the forty-sixth year of his age.—*Ed. Med. & Surg. Jour.*

Mr. Rumball on the Focus of Vision.—I affirm that "the images of objects are *not* inverted upon the retina, but that every image is painted there in a point;" in other words, "*the focus of the eye is upon, and not anterior to, the retina.*"

Exp. 1.—Dissect off the coats of the eye at the posterior extremity of its axis. Hold it up between the finger and thumb, and the vitreous humour will protrude. Look through the eye, and pass a probe or other object backwards and forwards before the pupil. *Its apparent motion will be the reverse of its real one.*

Exp. 2.—Cut away the protruding vitreous

humour. Now pass a probe up and down before the pupil; and, upon looking through the eye, the probe's real and apparent motion will be the same.

In the first experiment, the axis of the eye is slightly elongated; and, as the image of the probe is inverted, we have sufficient proof that the rays of light proceeding from it must have crossed each other, before their exit from the eye. *The focus is therefore within the axis.*

In the second experiment, the axis is shortened, and the real and apparent position of the object being the same, demonstrates that the rays have not crossed; consequently the focus of the eye is now without, or posterior to it. But, as the retina is situate between the point where the first experiment proves the rays to have crossed, and the point which the second experiment determines to be anterior to their crossing; and, as their extreme points approximate closely to each other, as in the first case the focus is within, and in the second without the axis, and as the retina is situate between them, I consider my proposition established, viz. "*that the focus of the eye is upon the retina.*"—*Phil. Mag.*

Decomposition of Sulphate of Copper, by Tartaric Acid.—M. Planche has observed, that when sulphate of copper is dissolved in wine vinegar, for the purpose of preparing a corrosive liquid to be applied to corns on the feet, that the tartaric acid present in the vinegar displaces the sulphuric acid from a part of the salt, and an insoluble acid tartrate of copper is produced.

Separation of Arsenic from Nickel or Cobalt.—The following process by M. Woehler seems among the best of those intended for freeing nickel or cobalt from arsenic in the dry way. It is founded upon the circumstances that many alloys, when heated with sulphuret of potash, become changed into a mixture of sulphurets, and that sulphuret of arsenic is very soluble in sulphuret of potash. One part of kupfernickle, fused and reduced to fine powder, is to be mixed with 3 parts of carbonate of potash, and 3 parts of sulphur, in a covered Hessian crucible. The heat is to be gradually raised to redness, and until the mass is just entering into fusion, and by no means so highly as to fuse the sulphuret of nickel which is formed. When cold, water is to be added, which will dissolve the sulphuret of potash, and leave a yellow crystalline powder, which is sulphuret of nickel, retaining, perhaps, a little copper or cobalt, but no arsenic, if the operation has been well performed. When, however, the object is to have the nickel perfectly pure, it should be fused a second time with sulphur and potash.

The method of freeing cobalt from arsenic, is the same as for nickel; but it is then necessary to perform the operation a second time. The cobalt (that of Tunaberg) has never been perfectly freed from arsenic by one operation, but has never retained any after the second.—*Archiv. für Bergbau*, 1826, p. 186.

New Alkali in Hemlock.—Professor Ficinus of Dresden, has discovered a new alkali in the *Æthusa Cynapium*, (*Linn.*) to which he has given the name of cynopia. It is crystallizable, and soluble in water and alcohol, but not in æther. The crystals are in the form of a rhombic prism, which is also that of the crystals of the sulphate.—*Repertoire di Chimie.*

Mosaic Printing.—Senfelder, the inventor of lithography, has discovered a new mode of printing from paintings, which has all the qualities of those executed in oil. He has termed it *Mosaic Printing*, and it is remarkable for its beauty, lightness, and durability.

Green Fire.—This is made of equal parts of pounded nitrate of barytes and charcoal, well mixed together. It is used in ghost scenes, and gives out a greenish flame with a white smoke, and makes the countenance assume a deadly hue.

Ancient Medical Literature.—A collection of the Greek writers was begun in Leipsic a few years ago, and has reached the 16th vol. A society in Paris has improved upon this example, by adding not only the Latin of the earlier and middle ages, and the Arabians, but also modern authors who have written in the Latin language. This collection will amount to 100 volumes.—*Foreign Quarterly Review, No.* 1.

Rewards for the Discovery of Quinia, and Lithotrity.—The Académie des Sciences has adjudged a prize of 10,000 francs to MM. Pelletier and Caventou, for their discovery and introduction into use of sulphate of quinia; and another prize of 10,000 francs to M. Civiale, for having been the first to practise lithotrity on the living body, and for having successfully operated by this method on a great number of persons afflicted with stone in the bladder.

Munificent Apothecary.—An apothecary of Tarentum, worthy of an age that we hope is reviving, died lately, possessed of a splendid picture gallery—containing specimens of Titian, Domenichino, Raphael, Giulio Romano, Michael Angelo, and other great masters. The produce of sale is expected to amount to nearly 200,000*l.* sterling.—*Furet de Londres.*

Prizes proposed by the Royal Academy of Sciences at Paris.—A general and comparative history of the circulation of the blood, in the four classes of vertebrated animals, before and after birth, and at different ages. The memoirs to be sent before the 1st of January 1829. The prize, a medal of the value of 3000 francs. A description, accompanied with

figures, sufficiently explanatory of the origin and distribution of the nerves in fishes. The prize is a gold medal, of the same value as the preceding. The memoirs to be sent before the first of January 1830, to the secretary of the institute.

New Publications.

The First Number (for November 1827, price 2*s.* 6*d.*, to be continued Monthly, and completed in twenty-eight Numbers) of the Flora Medica; containing Botanical Descriptions, Natural History, Chemical Properties and Uses, &c. &c.; the number of the different Species of the Officinal Plants, comprised in the latest editions of the London, Edinburgh, and Dublin Pharmacopœias; a list of the Indigenous Plants possessing Medicinal Properties, not included therein; a separate List of the Poisonous Plants; an Explanation of the Classes and Orders of the Sexual System of Linnæus, illustrated with Coloured Delineations; a copious List of Botanical Terms and Definitions; a Tabular Index, showing at one view the Generic and Specific Name of each Plant, the Class and Order to which it belongs in the Sexual System of Linnæus, the Natural Order of Linnæus and Jussieu, its Medicinal Properties, and the Volume and Page in which the Description is given. Edited by a Member of the London College of Physicians, F.L.S., and assisted by several Members of a Botanical Society. Callow and Wilson, London, 1827.

We heartily wish the Editor of this work success in his undertaking, for if we take this first number as a specimen of what is to come, his labours must be highly appreciated by the medical botanist. The Delineations are well finished for the nature and price of the work; and they are calculated to convey a very natural idea of the characters of the plants which they are intended to represent.

A Manual of Midwifery, for the Use of Young Practitioners of both Sexes. By William Maclure, Surgeon, Licentiate of the Faculty of Physicians and Surgeons, Glasgow, and Member of the Glasgow Faculty of Medicine. Underwoods. London, 1827.

This is a useful little work to young practitioners. Its only fault is that of being rather *too* concise.

L'Agent immediat du Movement vital devoilé dans sa nature et dans son mode d'action, chez les Vegetaux et chez les Animaux. Par M. H. Dutrochet, &c. &c. 8vo. pp. 226.

Pathological and Practical Researches on Diseases of the Brain and Spinal Cord. By John Abercrombie, M. D. Fellow of the Royal College of Physicians of Edinburgh, &c. 8vo. pp. 444. Edinburgh, 1827.

A Manual of Surgical Anatomy, containing a minute description of the Parts concerned in Operative Surgery, with the Anatomical Effects of Accidents, and Instructions for the Performance of Operations. By H. M. Edwards, D. M. P. Translated, with Notes, by Wm. Coulson, Demonstrator of Anatomy at the Medical School, Aldersgate street, &c. 12mo. pp. 427. London, 1828.

Observations on the Properties and Effects of the Expressed Oil of the Seed of Croton Tiglium; together with the Botanical History, and a correct coloured Engraving of the Plant. By John Frost, of Emanuel College, Cambridge, &c. &c. 8vo. stitched, pp. 40, with one Plate. London, 1827.

Observations on the Mortality and Physical Management of Children. By John Roberton, Member of the Royal College of Surgeons, Edinburgh; of the Literary and Philosophical Society of Manchester; and one of the Surgeons to the Manchester Lying-in Hospital. Longman and Co. London, 1827. pp. 311. 12mo.

Essai sur les Maladies de l'oreille Interne, ouvrage courouné par la Societé de Médécine de Bordeaux; par J. A. Saissy, docteur en Medecine, membre de plusieurs societés savantes, &c. un vol. 8vo. avec fig.

Works in Press.

Dr. Armstrong is preparing for the press, an octavo volume on the remote causes, prevention, nature, and treatment of Diseases of the Stomach, Liver, and Bowels. This work, which will appear in the spring, will be preceded by a series of coloured drawings, in 4to. with copious text, illustrative of the morbid anatomy of the stomach, liver, and bowels. They will be published in six monthly fasciculi, each containing about five plates, accurately coloured from nature.

Journal of Morbid Anatomy; or, Researches Physiological, Pathological, and Therapeutic. By J. R. Farre, M. D. The first number is in the press, and will be published early in 1828.

Mr. Frederick Salmon, Surgeon to the General Dispensary, and formerly House Surgeon to St. Bartholomew's Hospital, has in the Press a Practical treatise upon Stricture of the Rectum, illustrating by Cases the connection of that Disease with Affections of the Urinary Organs, the Uterus, and with Piles.

M. Dewhurst has in the Press Part II. of a "Dictionary of Anatomy and Physiology," also, Part I. of "Elements of Osteology," with lithographic drawings of the bones, taken from nature, the works of Albinus, Cheselden, and Cloquet, with an appendix describing the diseases of the bones, with the treatment, &c.; also notes of the Osteology of the higher orders of animals. It will be completed in six or seven monthly parts.

A. Grainger is about to publish the Elements of General Anatomy, in 1 vol. 8vo.

Mr. Litchfield, F. R S. Surgeon, has in the press a work entitled First Steps to the Study of the Healing Art.

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From the London Medical Repository.

A TREATISE ON THE DISEASES OF THE CHEST, &c. By R. I. H. Laennec, M.D., &c. Translated from the French. By John Forbes, M.D., &c.

(Continued.)

We now apply ourselves to the second part of Dr. Laennec's work, wherein he treats of the heart and its appendages. The first book is on the exploration of the organs of circulation, and is divided into eight chapters.

Percussion renders us but little assistance in discovering the condition of the heart. The application of the hand also to the region of the organ is less indicative of the regularity or irregularity of its contractions than even the state of the pulse at the wrist. The stethoscope affords by far the best means of judging whether the organ performs its functions well or ill. "The movements of the heart must be studied under four principal heads, viz.: 1st, the extent over which they can be heard by means of the cylinder; 2d, the shock or impulse communicated; 3d, the nature and intensity of the sound; and 4th, the rythm of their actions."

First, the extent of the pulsation of the heart. "This must be considered in two points of view:—first, the sensation conveyed by the instrument when applied to the region of the heart; and, secondly, the parts of the chest (besides this region) in which its action can be felt or heard." The organ, when examined in its natural condition between the cartilages of the fifth and sixth ribs, communicates a sensation as if it corresponded with a small point of the parietes of the chest, "not larger than that occupied by the stethoscope." The heart in other cases seems as if it occupied all the mediastinal cavity. Its movements may be also distinctly heard at the lower end of the sternum; and when this bone is short the pulsations may be perceived in the epigastrium. In thin, or narrow chested persons, and in children, the motion may be perceived much more extensively over the walls of the thorax, than in those who are in conditions the reverse of these.

"When the pulsations of the heart become more extended, they are heard successively in the following places:—1, the whole left side of the chest, from the axilla to the stomach; 2, the right side, over the same extent; 3, the posterior part of the left side of the chest; and, 4, the posterior part of the right side. This last is rare. In these cases the intensity of the sound is progressively less in the succession mentioned: for instance, it is less under the right clavicle than under the left: it is somewhat less on the lateral parts of the left side than under the clavicle; it is still less perceptible on the right side laterally; and much attention is requisite to enable us to hear the pulsations at all on the back, particularly the right side. This succession has appeared to be constant, and may be taken as an index of the extent of pulsation. For instance, if this be perceptible on the right side, we may be assured that it will be equally so over the whole sternum, under both clavicles, and over the left side; but we are not sure that it will be so on the back. But if it be perceptible on the back on the right side, we may calculate on its being still more audible in every other part of the chest."

Dr. Laennec thinks that the extent of pulsation of the heart is in a direct ratio to the thinness and weakness of the organ. Its size also will influence the extent of its pulsation. When the organ is enlarged, its contractions can, of course, be perceived more extensively over the chest than when its size is small and the walls of its cavities thick.

By the shock or impulse communicated to the ear by the action of the heart, we are to understand the sensation of pressure or percussion which is perceivable when the stethoscope is applied over the region of the organ. A similar impulse, but not so distinct, may be perceived by applying the ear to this region, without the intervention of the cylinder. When the heart is healthy, and the chest well formed, the impulse is not, in general, very extensive. It is chiefly confined to the cardiac region, and the lower part of the sternum. This impulse is also considerably modified by the general state of the system, by exercise and rest; by bloodletting, diarrhœa, abstinence, and every thing that weakens the system, it is rendered much less than when the general health is good and when the body is in a vigorous state.

During palpitation the heart emits a distinct and peculiar sound, which is perceptible

to the individual himself. A similar sound is perceptible to the examiner during the natural contraction of the organ when the ear is placed over the cardiac region, and more especially if the examination is made by means of the stethoscope.

"In ordinary circumstances, the stethoscope, applied between the cartilages of the fifth and sixth ribs, at the end of the sternum, or, indeed, in any point where the pulsation of the heart is perceptible, conveys to the ear a distinct sound; even in cases where the heart is very small and weak, and when the pulse is no longer to be perceived. This in the healthy body, is double; and each beat of the arterial pulse corresponds to this double sound; in other words, to two sounds. One of these is clear and rapid, and somewhat resembles the sound produced by the valve of a pair of bellows; this corresponds to the systole of the auricles. The other is more dull and prolonged, coinciding with the beat of the pulse and with the shock or impulse communicated to the walls of the chest by the motion of the heart: it indicates the contraction of the ventricles. The sounds heard at the end of the sternum are produced by the action of the right side of the heart; those between the cartilages of the ribs by the left cavities. In the state of health, the sound produced by the contractions of each side is the same; in certain states of disease, on the contrary, the sound of the two sides becomes quite dissimilar."

This sound is greater in proportion to the thinness of the walls of the heart. In hypertrophy of the viscus, the sound is dull, and if its parietes are much thickened, scarcely any sound can be distinguished, for the contraction of the ventricles produces merely a shock, and the sound of the auricles becomes very dull, and is scarcely audible.

By *rythm*, the author understands "the order of the contractions of different parts of the heart, and their relative duration and succession, as detected by the cylinder." The order of contractions of a healthy heart, if examined by the stethoscope, is the following.

"At the moment of the arterial pulse, the ear is slightly elevated by an isochronous motion of the heart, which is accompanied by a somewhat dull, though distinct sound. This is the contraction of the ventricles. Immediately after, and without any interval, a noise resembling that of a valve, or a whip, or the lapping of a dog, announces the contraction of the auricles. (I make use of these trivial expressions because they appear to me to convey, better than any description, an idea of the nature of the sound in question.) This noise is accompanied by no motion perceptible by the ear, and is separated by no interval of repose from the duller sound and motion indicative of the contraction of the ventricles, which it seems, as it were, to interrupt abruptly. The duration of this sound, and, consequently, the period of contraction of the auricles, is less than that of the ventricles—an incontestible fact of which Haller entertained doubts. Immediately after the systole of auricles, there is a very short, yet well-marked, interval of repose, subsequently to which we feel the ventricles swell anew, with the dull sound and gradual progression which characterize their action; then follows the quick and sonorous contraction of the auricles, and again the renewed but momentary immobility of the heart. This state of quietude after the contraction of the auricles does not appear to have been known to Haller as a natural condition. The relative duration of the contractions of the auricles and ventricles appears to me to be as follows:—a third, or at most a fourth, is occupied by the systole of the auricles; a fourth, or a little less, by the state of quiescence; and the half, or nearly so, by the systole of the ventricles. These remarks may seem minute; but I am assured they will be found exact, and easily verified by any one who will attend to the action of the heart in a healthy subject, for only a few minutes; and such trial will be made with most advantage, when the pulse is slow. When the pulse is at the same time slow and infrequent, the contraction of the ventricles is prolonged, the sound duller, and the shock less; the systole of the auricles, however, still retains its wonted brevity and sound—or even appears shorter than usual, on account of the lengthened systole of the ventricles. In this case, the interval of repose, after the contraction of the auricle, is not sensibly shorter. The period of quiescence after the contraction of the auricle is not sensibly less. When, however, the pulse is infrequent and quick (*vif*) the interval of repose is then longer and more marked than usual. In the case of a person labouring under apoplexy, whose pulse, though *quick*, was only fifty-eight in a minute, I found it equal to the period of the systole of the ventricles; and in another, with symptoms of the same disease impending, with a pulse also quick and only forty in the minute, the period of quiescence was equal to that of the systole of both the auricle and ventricle."

Dr Laennec calculates from the above facts, that, in twenty-four hours, the ventricles have twelve, and the auricles eighteen hours of quiescence; and in those whose pulse is naturally below fifty, the ventricles have more than sixteen hours of repose in the four-and-twenty. This order of succession in the heart's action, although not entirely changed, yet is frequently very much deranged in slight affections of the organ. In hypertrophy, the action of the ventricle becomes much more distinct from that of the auricles than it is found to be in the healthy state. The former cavities here emit a more prolonged sound, which is perceived as a profound and obscure motion; it gradually augments, elevates the applied ear, and then terminates in producing the impulse or shock. Having discussed this subject, the author qualifies the expression, *contraction of the auricles*, by stating that by this term must be understood only the contraction of their "sinuses or appendixes;" and he admits, with Dr. Barry, that the auricles are merely reservoirs, which are always

full, and upon which the ventricles draw at each diastole. We find, also, that Dr. Laennec subscribes tacitly to Dr. Barry's opinion relative to the influence of the atmospheric pressure over the circulation of the blood in the veins. That the pressure of the atmosphere *does* influence, and does modify the motion of the blood in these vessels by the movements of the thoracic parietes and viscera, very few will deny; but that this pressure, or thoracic movements, or both combined, can contribute in the least towards accelerating the flow of blood through the veins, in a positive sense, can be maintained by those only who are perfectly unacquainted with the laws of physics. It is not our intention at present to enter into a discussion of this subject, which has been already ably treated by very ingenious persons, although in our opinion, with more ingenuity than sound philosophy. We shall, probably, in the course of a few months, lay before our readers a series of experiments, which will fully establish the deduction which would have naturally been drawn respecting this subject *à priori*, from a knowledge of the laws of physics. For those who may wish to satisfy themselves in the mean time that no suction power is requisite to move the blood through the veins, they may easily do so by one experiment: viz. let them expose and tie the *vena cava inferior* close to the right auricle of the heart, then divide it immediately below the ligature, and fix a straight glass tube into it. They will find that the force which moves the blood from behind, (even when the fore part of the animal is held up so as to let the blood rise against its own gravity) is sufficient to raise the column of blood some inches above the level of the right auricle of the heart. If any one should wish here to disturb the maxim, 'that nature does nothing in vain,' a satisfactory reply might be made, founded upon undeniable facts, as well as upon natural laws, whose influence is as evident over the phenomena of living bodies as it is over those of the rest of the universe presented to our observation. But to proceed.

We now come to the fifth chapter, which treats "of certain anomalies in the sound of the heart and arteries." We can do little more than merely enumerate these anomalies, which the author divides into three kinds. First, the *bellows-sound.* Of this there are three varieties; first, *the bellows-sound, properly so called;* second, *sound of the saw or rasp;* and third, *musical, or hissing bellows-sound.* The first variety accompanies the diastole of the heart and arteries, and it ceases during the systole. This sometimes is changed into a murmur like that of the sea, especially in the carotids and some other arteries. The sound of the saw or rasp gives rise to a preception of roughness, similar to that communicated by these instruments when at some distance. Dr. Laennec has never observed the musical or hissing sound in the heart itself; it is only met with in the arteries.

The second sort of sound is the "*purring, or whirring vibration, or thrill of the heart and arteries.*" In the first edition of this work, Dr. Laennec considered this sound as a diagnostic sign of ossification of the valves, but he has since met with it in cases where no organic lesion existed. This thrill is very seldom met with unattended by the bellows sound, and the author doubts whether the former ever exists without some trace of the latter.

The next sound is that connected with the pulsation of the heart, perceived at some distance from the chest. Dr. Laennec never observed this phenomenon until the year 1823; but since then he has noticed it in more than twenty subjects; three or four of whom at most were affected with organic disease of the heart. "All the rest laboured under palpitation of a purely nervous kind." That cases of this nature occur now and then we can state from our own observation, but we believe them to be not very common. Dr. Laennec observes that the bellows sound and purring thrill are frequently present, particularly in some of the arteries, in such cases; but as he has never had an opportunity of examining any case where this affection existed before death, he cannot speak with certainty as to the organic cause of it. He is, however, induced to consider it to depend upon the presence of more or less air in the cavity of the pericardium. This, as the translator observes, seems to be a very gratuitous and untenable explanation of the phenomenon, founded upon no facts which could justly lead to such an opinion.

We must pass over the three other deranged conditions of the heart's action, of which the author speaks, namely, *palpitation* of the organ, *irregularities* and *intermission* of its action. The third condition might, indeed, be embraced in the second, but as these are affections with which medical practitioners daily meet, we shall offer no remarks upon them. We shall next enter upon a brief examination of the second book, which is also the last of the volume. This comprehends the diseases to which the heart is subject, and it is divided into twenty-seven chapters, many of which are, of course, very short, and the notice which we shall take of them is not intended to be long.

The author sets out with a general description of the most common diseases of the heart, and of their symptoms.

"The severest and most common diseases of the heart are—dilatation of the ventricles, thickening of the walls of these, or the reunion of both affections. Most frequently a single ventricle is affected; sometimes both are so in a similar, or in an opposite manner, as in the common case of dilatation of the right ventricle, with hypertrophy of the left, and *vice versa.* The persistence of the foramen ovale, the perforation of the septum between the vetricles, the ossification of the sigmoid valves of the aorta, or of the mitral, excrescences on the same parts, and accidental productions formed in the heart, are of much rarer occurrence, and do not, generally speaking, impair the health, until they have reached

such a degree as to give rise to hypertrophy or dilatation of the ventricles. The dilatation and hypertrophy of the auricles are rarer still, and are, perhaps, always consecutive affections depending on previous disease of the valves or ventricles.

"The general symptoms of all these affections are almost the same:—

"These are—an habitually short and difficult respiration; palpitations and oppression constantly produced by the action of ascending by quick walking, by emotions of mind—or without any perceptible cause: frightful dreams, and sleep frequently disturbed by sudden starts; a cachectic paleness and a tendency to anasarca, which, indeed, comes on after the disease has persisted some time. To these symptoms is frequently added the *angina pectoris*—a nervous affection which will be described hereafter. When the disease has reached a high degree it is recognised at a single glance. The patient, unable to bear the horizontal posture, remains night and day sitting, rather than lying in his bed, with the face more or less swollen, sometimes very pale, but more commonly of a deep violet tint, either over the whole, or only on the cheeks. The lips are swollen and prominent, like a negro's, of a deeper purple than the rest of the face, or of this hue when it is quite pale. The lower extremities are œdematous; and the scrotum or labia, the trunk of the body, the arms and even the face, are successively affected in the same manner. The same state exists in the serous membranes, whence arise ascites, hydrothorax, and hydropericardium, which accompany organic affections of the heart more frequently than any other disease. The congestion and lentor of the capillary circulation are further shown by affections of the internal organs; for instance—hæmoptysis, pains of the stomach, vomiting, apoplexy (which frequently terminates such affections,) and most of all, dyspnœa, which last symptom has been the cause of confounding such diseases (with many others) under the name of *asthma*. These symptoms, however, as they show themselves in the diseases of the heart, have peculiar characters which tend to distinguish them from such as occur in the affections most likely to be confounded with them."

Our object here is merely to give an exposition of the contents of the volume before us. Were it to write an essay on diseases of the heart, we might enumerate many more symptoms which our author has either overlooked or considered unworthy of notice. As numerous very able works have been written on this subject of late years, the profession would do well to consult them, and compare their accuracy and value with those of the treatise of M. Laennec. The latter evidently places here rather too great a reliance on certain supposed signs discoverable by means of the stethoscope. That this is a most valuable assistant to our other methods of recognizing diseases of the heart, no one who has ever availed himself of opportunities of using it will deny; but when we consider the powerful influence of the nervous system over the action of this organ, even from merely mental emotions, and when we further consider that the supposed diagnostic signs are solely dependent, not upon the absence of presence of sound, but upon different modifications only of sound, the nature of which, from the function of the organ which emits it, can never vary very considerably, we shall not be disposed to give up our assent altogether to the opinion, that auscultation alone is sufficient to lead us to a correct diagnosis of the different maladies which are liable to affect this important viscus.

The first particular disease which comes under notice is *hypertrophy of the heart*. This consists of a "simple increase of the muscular substance of the organ, with a proportionate dilatation of its cavities; on the contrary, these are most commonly considerably diminished in size." It may exist in one ventricle or in both ventricles, with or without a similar affection of the auricles. The thickening commonly diminishes insensibly from the base to the apex of the ventricle, where it is scarcely perceptible. The septum and columnæ carneæ are also sometimes found morbidly thickened.

Mediate auscultation, in hypertrophy of the left ventricle, discovers the contraction to give "a very strong *impulse*, sufficient to elevate the observer's head, and is accompanied by a *duller sound* than natural." This is discovered by placing the cylinder between the cartilages of the fifth and sixth ribs. When the walls of the right ventricle are morbidly enlarged, a similar impulse is perceptible; but here the shock is greater at the lower part of the sternum than between the ribs. The heart is heard equally in both these places in health, and the author considers the signs already mentioned as pretty sure indications of hypertrophy. When both ventricles have their walls thickened, the signs "consist in the re-union of those that belong to hypertrophy of each side."

Dilatation of the Ventricles is generally accompanied by a decreased thickness of their parietes, and with these there is often a certain degree of "softening of their muscular substance, and a colour more purple, or paler than natural." Dilatation is sometimes confined to one ventricle, but it more frequently affects both ventricles at the same time. Dr. Laennec thinks, with Burns, that the dilatation may extend so far as to occasion rupture of the cavities. We are told that the only certain sign of dilatation of the left ventricle, "is that given by the stethoscope, viz. the clear and sonorous contractions of the heart between the cartilages of the fifth and seventh ribs (on the left side.) The degree of distinctness of the sound, and its extent over the chest, are the measure of the dilatation." When the right ventricle is similarly affected, the sound is more distinct at the lower part of the sternum and between the cartilages of the fifth and seventh ribs of the right side.

The two next chapters, namely, the fourth and fifth, treat "of *dilatation, with hypertrophy of the ventricles;*" and "*of dilatation of*

one of the ventricles with hypertrophy of the other." Dr. Laennec does not consider these complications very rare. Of the latter kind he has witnessed the following varieties:—"1, Hypertrophy, with dilatation of the left ventricle and simple dilatation of the right; 2, Hypertrophy with dilatation of the left ventricle, and simple hypertrophy of the right; 3, Hypertrophy with dilatation of the right, and simple dilatation of the left; 4, Simple hypertrophy of the right, with dilatation of the left, this last is the rarest." The stethoscopic signs of these affections are compounded of those relating to hypertrophy and dilatation singly. It, of course, requires practice before they can be properly recognized.

Our author says, that he never met with a case of dilatation of the auricles of the heart without a thickening of their walls; and, on the other hand, he never saw a case of hypertrophy of their parietes without being accompanied by dilatation of their cavities. He modestly confesses that, since he has practised auscultation, he has not had sufficient opportunities to satisfy himself, that the signs which he considered indicative of these two affections may be fully relied on.

We shall now pass over several chapters, most of which are very short, and contain nothing new or very important. In order, however, that our readers, some of whom may not possess the work, may have a correct idea of it, we shall just enumerate those subjects upon which we consider it unnecessary to make any remarks. These are, in the order in which they are treated, *partial dilatation of the heart; induration; softening; atrophy; displacement; malformation; cardites;* (inflammation of the muscular substance of the organ—a disease whose existence is rather doubtful) *rupture; fatty disease; ossification, and accidental growth in the heart.*

Dr. Laennec has noticed, like other morbid anatomists, that the tricuspid and sigmoid valves of the pulmonary artery are found ossified much more seldom than the mitral and sigmoid valves of the aorta. The anatomical characters of this affection are too well understood to require a description of them here. We may refer to a case of ossification of the mitral valve published in our last Number,* and communicated by a very able correspondent of this Journal. In order to show the *signs* (whether true or not was not proved) by which our author distinguishes this affection, we shall extract the following case:—

"A very muscular young man, aged sixteen, came into the Necker Hospital in February, 1819, complaining of oppression on the chest and palpitation; symptoms which had seized him suddenly, together with hæmoptysis and epistaxis two years before. These symptoms were relieved at the time by rest; but returned as often as he made any considerable degree of exertion. He presented the following symptoms on coming into the Hospital: respiration and resonance good over the whole chest; the hand applied to the region of the heart, feels the pulsation strongly, and accompanied with the *purring* vibration. This vibratory sensation is not continuous, but returns at regular intervals. The stethoscope, applied between the cartilages of the fifth and seventh ribs, gives the following results:—contraction of the auricle extremely prolonged, accompanied with a dull but strong sound, exactly like that produced by a file on wood. This sound is attended by a vibration sensible to the ear, and which is evidently the same as that felt by the hand. Succeeding this, a louder sound and a shock synchronous with the pulse point out the contraction of the ventricle, which occupies only one fourth the time, and has something harsh in its sound. Under the lower end of the sternum the contractions of the heart are quite different. Here the impulse of the right ventricle is very great, its contraction accompanied by a very distinct sound, and being of the ordinary duration—viz. twice as long as that of the auricle. The sound of the auricle is somewhat obtuse, but without anything analogous to the vibratory character of the left. The action of the heart is audible below both clavicles on both sides, but feebly, especially on the right. Over the whole sternum, on the right side and below the left clavicle, the contractions of the heart have the same rythm as at the end of the sternum. On the left side, on the contrary, the whizzing sound of the left auricle, already described, is much feebler than in the left precordial region. From these signs the following diagnostic was given:—*Ossification of the mitral valve; slight hypertrophy of the left ventricle; perhaps slight ossification of the sigmoid valves of the aorta; great hypertrophy of the right ventricle.* The pulse, in this case, was pretty strong and very regular, and all the functions natural, only the sleep was habitually disturbed by frightful dreams, and the lad could not use any severe exercise, nor even walk rather fast, without being attacked by strong palpitations and a feeling of suffocation. Four venesections, after intervals of a few days, gave much relief. After the first, the pulse became weak; and immediately after each bleeding the *purring vibration* became imperceptible to the hand, and the whizzing of the auricle changed from the sound of a *file* to that of a *bellows*, the valve of which we keep open by the hand; but the shock of the right ventricle continued to be very strong. This patient left the hospital after a month, being, in his own opinion, pretty well. He came afterwards several times to consult me, and was bled occasionally. I saw him once more in 1822. I found that he had abandoned his laborious occupation, of gardener, and had an easy place as the servant of a priest. Since his change of situation he has been much easier; but his former symptoms still exist, although in a slighter degree."

With respect to the concretions of blood, commonly termed polypi, found so frequently in the heart and large vessels, Dr. Laennec considers it probable they are sometimes form-

* Vide Journal of Foreign Medicine for March.

ed during life, and at other times after death. Those which form posterior to death "exhibit merely a slight layer of whitish opaque fibrine, partially enveloping the coagula of blood contained in the heart and large vessels. On the other hand, the polypi of more ancient formation are of a much firmer consistence, and they adhere more or less strongly to the parietes of the heart." Whether this view of the formation of these concretions be correct or not, is not very easy to decide; but were we allowed to offer a conjecture, where facts alone can prove the point, we should be disposed to doubt the correctness of our author's inference here. That some of the vessels are now and then found completely obliterated by fibrine or coagulated blood, by no means proves that the blood can coagulate during life so often as these firm concretions are found in the heart. It proves no more, in fact, than that the inner coats of these vessels had been subject to disease, and had thrown out coagulable lymph, which gradually contributed to fill up their calibre. These polypi, so far as we have been ever able to discover, never present any appearance of being at all organized. They are attached by no vessels to the parietes of the heart: they adhere merely by the cohesive power which characterizes fibrine, separated from blood, taken from the arm or from any other part.

We meet next with the subject "of inflammation of the internal membrane of the heart and large vessels." Dr. Laennec considers this a very rare disease, "notwithstanding the contrary opinion of some modern observers." In order to prove this to be the case, he enters upon an "examination of the different morbid appearances, which have been considered as proofs of the inflammation in question. 1. *Redness of the membrane.*" We have frequently found, in examining bodies, the lining membrane of the whole, or a great part of the aorta, of a scarlet colour, or something approaching to that colour. Sometimes, indeed not very unfrequently, the internal surface of the whole arterial system presents this appearance. We noticed it first in a woman who had died of puerperal fever; and we then thought that we had found out the proximate cause of that fatal malady; but since that time we have several times witnessed similar appearances in persons who had died of chronic affections, such as phthisis, and other diseases equally slow in their career, where there had been no reason whatever to suspect inflammation of the vessels before death. Sometimes the redness is seen in patches, as if coagula of blood had adhered for some time to the coat of the vessel; but that it is not owing to the stain of blood, appeared to us, first, from its being present when the vessel is quite empty; secondly, because it cannot be scraped off without destroying the membrane itself. Respecting this appearance, the author of the present work observes:

"I am extremely doubtful whether this kind of redness gives rise to general symptoms sufficiently constant or severe to indicate its presence. I have found it in subjects dead of very different affections, and have never been able to foretell its existence by any constant signs. A rather prolonged agony, in subjects still vigorous yet cachectic, from diseased heart or otherwise, has appeared to me frequently to accompany this affection. In cases of this kind, the blood is never strongly coagulated, and the body most commonly affords marks of decomposition."

The case of puerperal peritonitis, to which we have already alluded, tends to confirm the last sentence of the above paragraph; for, although the body was examined not many hours after death, it had undergone such a degree of decomposition, as to render every part of it liable to be torn by the slightest touch: but we do not recollect of any other instance where this condition of the body accompanied the scarlet, or dark-red appearance of the internal coat of the arteries. Whether we have been correct, however, in the negative view which we took of the cause of this appearance, is rather doubtful, from the following experiments made by M. Laennec:—

"Having been struck with this coincidence of redness of the membrane, and alteration of the fluids and incipient decomposition of the body, I began to doubt (four years since) whether the former were not merely the result of imbibition of blood after death. With the view of determining this point I made the following experiment, which I have since repeated a great many times. In a subject which exhibited at the time no mark of decomposition, and in which the aorta was healthy and white throughout, I removed this vessel, filled it with blood from the body, and having passed a ligature round its two extremities, deposited it in the stomach of the subject. At the expiration of twenty-four hours, I laid the artery open, and found its internal tunic precisely of the scarlet colour above described, and which was not lessened by repeated washings. This experiment does not always succeed so completely. If the blood employed is too much coagulated, the imbibition is obtained very difficultly, feebly and slowly. If we employ blood but half coagulated, and particularly such as we express from the lungs, we produce the scarlet colour. If we employ blood which is very fluid, especially if mixed with serum, we obtain a more or less deep purple or pale colour. If we fill the artery only one-half or one-quarter, the part in contact with the blood alone exhibits the discoloration. If the coats of the artery are firm and elastic, the experiment succeeds with difficulty and after a long time (72—80 hours,) and the tinge is never deep. On the other hand, if the tunics are soft, supple and humid, the colouring is speedily diffused through their whole depth. The experiment succeeds much better in summer than winter, and the more readily as the decomposition is rapid; the colorization, however, is complete, long before the aorta yields any disagreeable smell."

2. "*Pseudo-membranous exudation.*" The

author considers this as an unequivocal sign of inflammation of the lining membrane of the vessels. [He, as well as several other authors, has noticed this appearance.

3. "*Ulceration*" of the membrane must be also considered as a sign of present or previous inflammation, when it is proved to be ulcerated; but our author believes many of those cases, which have been considered by others as ulcerations of this membrane, as nothing more than "the separation of the bony incrustations of the aorta." He admits that "small pustules, full of pus, have been sometimes found beneath the inner membrane of the aorta, and which have discharged their contents into its cavity;" but he considers it probable that these are the consequence of inflammation of the middle coat of the vessel, or of the fine cellular substance which unites this to the inner coat.

4. "*Polypi.*" We are asked "if these be the product, and, consequently, a proof of the existence of inflammation of the inner membrane of the heart and arteries?" We are inclined to answer, *No*, generally speaking. That these polypi, when found in the heart, are not the product of inflammation, very few will be disposed to dispute. But we will give the author's conclusions, with which, however, we do not tacitly agree, as they are not altogether deduced from facts.

"From all that precedes, I think we may deduce the following conclusions:—1. The remora of the blood, in consequence of obstruction to its course, suffices in itself, to produce coagulation, and to determine the formation of a coagulum of organizable fibrine. Every cause capable of occasioning this remora, particularly mechanical obstruction to the circulation and repeated and prolonged faintings, appears to me sufficient to produce this effect. 2. The coagulation of blood in the vessels seems to produce in some cases, particularly in the veins, a true inflammation, accompanied by the formation of a false membrane. 3. It appears certain that occasionally, and especially in the veins, where the circulation is slow, an inflammation of the inner coat of these may occasion coagulation of the blood, in the vicinity of the lymph, effused by the inflammation. 4. Pus absorbed in great quantity by a vein, may, in several ways, affect the concretion of blood—by rendering it less liquid from simple admixture—by coagulating it by a chemico-vital action—and by exciting inflammation of the containing vessel. It is well known, that nothing is more common than to find the veins in the vicinity of a cancerous breast, or in inflammation of the uterus after parturition, filled with pus, either pure or mixed with blood, sometimes fluid, at other times more or less inspissated, and occasionally of the degree of consistence of the contents of an atheromatous tumour."

We shall pass over "excrescences on the valves and internal parietes of the heart;" and describe a few of the anatomical characters and signs of "*pericarditis.*"

The inflammation here may be either acute or chronic. It is characterized by redness of either the whole, or a part of the pericardium; its surface is now and then covered by a layer of coagulated lymph, or a sero-purulent effusion. "In some cases, wherein, to judge by the thickness of the false membranes, the inflammation appears to have been very great, no redness whatever can be discovered on the serous membrane, on removal of the membranous exudation." The pericardium often adheres very firmly to the heart, by the intervention of a thick, fibrous, adventitious membrane. The coagulated lymph appears sometimes, in prominent concretions, a good deal elevated above the surface of the secreting membrane. The chronic form of the disease generally embraces the whole surface of the pericardium; and it is attended with more redness than the membrane presents when the inflammation is acute.

With respect to the *signs* of pericarditis, Dr. Laennec confesses that he has often fallen into an error. "There are few diseases attended by more variable symptoms, or of more difficult diagnosis." He thinks, however, that the following are the most common symptoms of the disease, when not latent:—

"The contraction of the ventricles yields a greater shock, and sometimes a more marked sound than usual, and, at intervals, feebler and shorter pulsations are perceived, which correspond with intermissions of the pulse, the smallness of which contrasts remarkably with the strength of the heart's pulsation: sometimes the pulse is almost quite imperceptible. When these symptoms come on suddenly in a person who had never been affected with disease of the heart, there is great probability of their being the consequence of this disease. It is further common for the patient to have more or less dyspnœa, cardiac anguish, and very great anxiety; and to suffer syncope on taking a few steps, or on moving suddenly in his bed. The feeling of pain, heat or weight in the region of the heart, is a much rarer symptom, yet it is sometimes met with. In some cases, the cardiac region yields the dead sound; but most frequently the sign is far from being distinct."

Chronic pericarditis is still more difficult to distinguish than the acute. The author observes that the uncertainty of its signs "arises not merely from their variability, but also from the greater rarity of the disease in an essentially chronic state." We, however, agree with Dr. Forbes in opinion, that this disease occurs much more frequently than is generally supposed. Dr. Forbes thinks, moreover, "that it is not of such difficult diagnosis as M. Laennec supposes." We have seen a few cases of this disease: in these the symptoms were, certainly, very equivocal, and the nature of the malady was not satisfactorily made out, until it was proved by examination after death. Our author has entirely overlooked the treatment of pericarditis.

The signs of *hydro-pericardium*, as described by Dr. Laennec, are by no means satisfactory; we shall, therefore, pass over this

subject, and transcribe a case of ossification between the layers of the pericardium.

"A man, aged sixty-five years, had led an intemperate life, but had, nevertheless, enjoyed good health until his fiftieth year. At this time he appears to have had an attack of pleurisy of short duration, but which was followed by œdema of the lower extremities, and, subsequently, by anasarca of other parts, and by dyspnœa and breathlessness on ascending an elevation, or using any degree of exercise. When he came into the hospital, in the end of spring, the dropsical symptoms continued, and the lips were swollen and violet. The pulsations of the heart were unequal, irregular, and very distinct, though perceptible over a very small extent of the chest. The pulse was feeble, small, soft, unequal, intermittent and irregular. There was no cough, but copious expectoration. The thorax sounded well superiorly, but badly on the lower parts. The patient could lie in any posture; slept well, even without having his head raised, and had no sudden startings from sleep. He died in the course of a few months, the dropsical, swellings and dyspnœa having much increased.

"*Dissection. twenty-four hours after death.* The brain, lungs, and abdominal viscera were found in a sound state. The heart was enlarged, and adhered throughout to the pericardium, by means of very close cellular attachments. On first touching it, it seemed to be quite enclosed in a bony case, situated beneath the fibrous membrane of the pericardium; but on further examination this incrustation was found to be incomplete. Around the base of the ventricles there was a zone or band, partly bony and partly cartilaginous of from one to two fingers' breadth, of unequal thickness, flattened, yet somewhat rough on its surface. This band projected into the angle between the ventricles and auricles, and extended along the interventricular septum on both sides, to near the apex of the heart. The whole of this production was contained between the fibrous membrane of the pericardium and the serous membrane which lines it internally. The auricles were enlarged so that each might have contained a large egg. One of the mitral valves contained an ossified point, of the size and shape of a French bean.

"In 1823, I met with a similar case, only that the incrustation was less extensive. Cruwell, Pasta and Burns, seem to have observed analogous instances."

The next chapter is on "organic affections of the vessels of the heart." In speaking of aneurism of the aorta, the author adheres "to the ancient distinction of *true* and *false* aneurism." True aneurism of the ascending portion and arch of the aorta usually extends from the root of the vessel to the point where it begins to descend. Several dilatations are sometimes observed in the descending vessel, and now and then its "whole tract is dilated to double its natural size." Aneurism of the arch occasionally acquires an enormous size, as may be seen in various museums, and our author has met with cases which presented a sac "as large as the head of a full grown fœtus." We are left perfectly in the dark respecting the signs and symptoms characteristic of aneurism of the aorta, "all those noticed by authors, and especially by M. Corvisart, being indicative merely of the change or compression of adjoining organs." We are told that this is one of the three severer organic lesions of the thoracic organs which present no pathognomonic signs to those who are versed in the practice of percussion and auscultation. The other two are *pericarditis*, and *polypi of the heart;* "all of which, it may be remarked, are very liable to be confounded together."

The two chapters which remain of this volume, embrace "*the treatment of the organic diseases of the heart;*" and the "*nervous affections of the heart.*" With respect to the treatment proposed by the author, it is certainly very meagre, and it is scarcely worth the trouble of noticing it, inasmuch as numerous other works have been very ably written on this subject, which far surpass the present, as it regards the *treatment* of these obscure maladies. The chief value, and that is very great, of the work of M. Laennec, consists in the minute and accurate description of the anatomical characters of the diseases which it comprehends, and of those signs which he has found, during a very extensive and persevering practice, to be pathognomonic of each disease. That he has given rise to a new era in the mode of exploring the functions of the thoracic viscera, both in health and in disease, must be fully admitted, as a just tribute to his memory. When we consider what he has done, and the benefit which he has conferred on the profession, and on society at large, by the discovery of a new method of recognizing many of the most insidious and obscure affections to which mankind are subject, we must not complain that he has not carried the plan of treatment of these maladies to that pitch of perfection at which every one is anxious that it should arrive. Let others follow the path which he has trodden, and it is possible that we may acquire an influence over affections of the chest which has never yet been possessed.

Having said thus much of the author, it is but just that we should pay our tribute of thanks to the translator, for his share of the labour. We have not the pleasure of knowing Dr. Forbes personally; but, judging of his talents and literary acquirements from the proof which he has given to the public, we feel assured that the present work could not have fallen into more able hands for translation. The style is highly classical, and the notes contain many valuable remarks on different subjects treated of in the body of the volume.

From the London Medical and Physical Journal.

ON LIFE. By Sir George Smith Gibbes.

Although, from a great variety of observations and experiments, which at various times, during upwards of thirty years, I have made

on the animalcula infusoria, and although, from these experiments, I have been convinced of their importance in explaining many of the phenomena of animal and vegetable life, yet I never should have ventured to make my opinions public, until I saw that others had led the way in the same line of inquiry.

The subject having, however, been brought forward, I feel at liberty to detail some experiments corroborative of the opinions that have thus been promulgated.

If it be admitted that there exists a totally different series of laws which regulate the vital and the material world, it must be of importance to trace those laws in each instance.

There is no division of inorganic matter by which we can arrive at an ultimate living particle. In organized bodies we find a terminating rudiment, evidently endowed with a power of spontaneous activity, beyond the simplicity of which we cannot go. This is the *monas termo*, so called for that reason.

Some recent and most highly interesting views of the animal economy have appeared, wherein the composition of the human body is portrayed in a very novel and most curious manner.

"All the tissues of the animal body are shown to be ultimately resolvable into minute globules, and that these globules, as they are successively disengaged from the mass, exhibit distinctly a power of spontaneous activity, moving about rapidly in all directions. In short, they become animalcula, possessing the power of locomotion, and have been named monades. It appears that these bodies are capable of existing as animals or vegetables, and of forming elementary parts of either.

"Thus, according to the above view of the subject, we arrive at the singular conclusion that the human body, with all its organs, is built up of animalcula, and that it is a congeries of countless millions of organized beings, each capable of living in a separate state, and perhaps exercising some of the functions of individual life whilst incorporated with our system. It is not certain, but it is at least probable, that these monades form the last link in the chain of organic life, and that beyond them there is nothing but the ultimate gaseous elements.

"They are the units, we may reasonably suppose, by the addition or substraction of which all the parts of the body are daily enlarged or diminished.

"The process of digestion, perhaps, consists merely in the operations necessary to separate these monades from the combinations in which they existed in the animal or vegetable substances that form our food; and that of assimilation, in the mode of conveying them to, and depositing them in, the various parts of the body for whose nourishment they are destined."

In my last communication, I described the observations I had made on the part these animalcula perform in the growth of plants. In conformity with the object of the present paper, I shall describe some further experiments illustrative of the above view of the subject.

The green matter which spontaneously forms itself in vessels of water which are exposed to the action of the air, bears a strict analogy with the Conferva rivularis and the Tremella nostoc. If the property of producing oxygen gas during life and growth belong only to vegetables, it would appear from the experiments of Dr. Ingenhousz, that there exists in the three above-mentioned vegetables an insensible change from the animal to the vegetable kingdom, and vicê versâ.

Water which has been boiled, enclosed in an inverted vessel over mercury, does not produce the green matter, however exposed it may be to the light; whilst spring water, on the contrary, generally produces it under the same circumstances.

Boiled water, when exposed to the air and to light, will produce the green matter.

Boiled water contained in a vessel inverted over mercury, will produce the green matter, if any vegetable or animal substance be added to it, as blood, flesh, fish, bile, potato, indigo, &c. At first these substances are decomposed, the water gets turbid, and a mixture of hydrogen gas, azote, and carbonic acid are disengaged: the water at length becomes green, and, in the place of these airs, nothing remains but oxygen gas, in a state of very great purity. If this water be examined with a good microscope when it becomes green, we see a great number of animalcula, which move freely about it. In following our observations with these animalcula, we see them after a time relent in their movements, and unite together, forming the green matter.

If this green matter be suffered to dry, and be broken to pieces, and if the broken pieces be placed in water, animalcula, absolutely similar in form to those which had united themselves in the green matter, re-appear, and move about freely in the water.

In observing this curious fact, which can be easily done by a drop of the water being placed in a concave glass, and covered over with talc to prevent evaporation, the round bodies, which are the animalcula, observe at first a perfect immobility: after a time they acquire an oscillating motion, which increases, and at last assume the same activity and vivacity that they had previously to their forming the green matter.

After this the animalcula reunite, and again form the green matter, which produces oxygen gas when exposed to the light.

From following these experiments with Dr. Ingenhousz, and in watching the progress of vegetation under a variety of experimental management, I have long since felt the conviction that vegetables acquire their growth under the instrumentality of the animalcula infusoria; and that the preponderating influence which the germ of either the animal or vegetable exercises seems to determine the *monas*

termo, or its combinations, towards the formation of one or the other.*

Although we may combine in numberless ways the ultimate elements of almost all food, oxygen, hydrogen, carbon, and axote, by chemical means, yet we never can produce that combination which will nourish animal life. That power belongs elsewhere, and must be sought for in the knowledge of the laws of vitality.

From the Medico-Chirurgical Review.

CLINICAL OBSERVATIONS ON THE EFFICACY OF HYDRO-CHLORURET OF LIME, *as a Remedy in certain Stages of Fever and Dysentery.* By Robert Reid, M.D. &c. &c. Octavo. Dublin, April, 1827.

In the late—and, indeed, present epidemic fever of Dublin, (April, 1827,) Dr. Reid had occasion to notice circumstances, not observed by himself or others in former epidemics. In individuals affected with the prevailing fever, the disease usually increased till the sixth day, when a severe rigour took place, followed or not by profuse perspiration. When this occurred, the fever was generally at an end, and the patient became convalescent—the speedy convalescence being generally proportioned to the severity of the rigour. The great majority of patients, however, had not this good luck. The disease yielded with difficulty to the usual remedies, and the patients were brought to a doubtful convalescence, thinking themselves well. There would be no tangible or appreciable disease—and yet the physician would frequently be surprised at hearing of his patient's sudden death the day after he had left him apparently convalescent.

We shall notice one or two cases in illustration. Anne Watson, aged 19, after being five weeks ill with fever, was received in the hospital on the 9th Jan. 1827. The disease seemed mild—her bowels were regulated by aperients—and she was then ordered the saline diaphoretics. She appeared gradually getting better till the 13th, when, after a quiet sleep, she awoke, gave a sigh, and died.

Dissection. The stomach was much distended with flatus, and some dark spots were observed on the mucous membrane. The duodenum and other intestines were natural. The liver not enlarged but the colour of a deeper red than usual—"the biliary function apparently suppressed." There was much red fluid in the pericardium—left ventricle of the heart flabby, its parietes thin, and the cavity much larger than natural. "On opening this cavity, a gush of air rushed out, and it did not contain any blood or coagulum." The left auricle, on pressure between the fingers, gave a distinct sensation of crepitus, from air contained in its cavity. There was no sign of putrefaction in any part of the body. The right auricle was distended with venous blood; right ventricle natural. The contents of the pulmonary veins did not appear to have undergone the usual change in the lungs, which in other respects, seemed healthy. The internal surface of the aorta was of a dull pink colour, and the texture of the vessel appeared softened—which state seemed to extend through the whole arterial system. In the head, the dura mater was found extremely vascular, and an extravasation of blood and coagulated lymph was observed covering the entire right hemisphere of the brain, causing a considerable depression in the middle region. The coagulated lymph pointed, as usual, to the source of the hæmorrhage, which was ascertained to have flowed from a small vessel at the side of the longitudinal sinus. There was no extravasation on the left hemisphere. The medullary substance of the brain seemed in a state of congestion.

Case 2. Catherine Hannon, a nurse of the hospital, took the fever, and was confined to bed, on the 9th March, 1827. On the 12th, she appeared nearly convalescent. On the 13th, in the morning, she had a slight rigour, and in eight hours afterwards she was dead.

Dissection. The surface of the body exhibited a dirty purple yellow hue. The viscera of the thorax, abdomen, and pelvis, healthy. When the scull-cap was removed, the dura mater seemed of a brownish yellow colour, and a yellow matter, as if bile had been suffused, was found between the arachnoid and pia matter. The substance of the brain had a yellow tinge. Nothing remarkable in the ventricles.

Case 3. William Ludlow was admitted into the hospital, labouring under a relapse of fever. He seemed progressively mending until the 28th of March, when he complained of slight pain in the abdomen, and general feeling of returning disease. These symptoms rapidly increased, and the next morning he died.

Dissection. The serous surface of the peritoneum was healthy—the mucous membrane of the ileum exhibited patches of congestion, with some tendency to ulceration. The viscera of the thorax and abdomen were healthy. The blood appeared decomposed and watery. The medullary substance of the brain was congested, and much watery blood was discharged from the cut parts.

Case. 4. John Anderson was admitted on the 2d of April, being six days ill with fever: he complained of tenderness of abdomen on pressure—skin and eyes yellow. On the 5th he appeared much relieved, and had a quiet preceding night. At mid-day the pain of abdomen returned, and leeches were ordered; but, before any means could be used, he turned quite purple, and quickly died. There was no dissection.

Case 5. Master ——— had been ill several

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* However we may be led by analogy to believe that the monades find a nidus in these organised bodies, and thus are disseminated throughout their substance, still we are compelled to allow, in all these combinations, that they form an integral part of each resulting organic production.

days with fever, but became convalescent. In a few days more he complained of violent pain in the abdomen, and leeches were ordered, but, from mistaken lenity, they were not applied. In 48 hours he died.

Dissection. Great tendency to putrefaction in a few hours after death—abdomen tumid, and integuments green—back and lower extremities black. On opening the abdomen all the viscera were found covered with a yellow curd-like matter, and a considerable quantity of pus and sanies diffused through the cavity. The liver was studded with a crystaline miliary eruption, similar to what had been observed on the surface during his illness. The head was not examined, as it had shown no symptom of disorder during life.

"To avoid the farther detail of particular cases, it may be sufficient to state, that in all the subjects I have examined, who have died of the fever at present under consideration, there have been evidences of the maturation of the disease, modified, of course, by the nature of the parts upon which its influence was directed, and by the accidental state of the individual's constitution. Thus it was sometimes thrown on the vascular system, as in the first case, and by injuring the texture of the vessels disposed them to rupture, or gave origin to hemorrhage from the noise and rectum. When the result of the disease has fallen on the substance of the brain, this organ after death exhibited a most remarkable state of congestion. On cutting the medullary mass, a quantity of thin blood, apparently in a dissolved state, was poured from innumerable points. These cases were by far the most rapidly mortal; some have occurred to my observation when this state of the brain was about to commence, and before many minutes elapsed, the progressive changes towards death took place while I was standing by the patient. In all the cases of this kind which I have examined, there were observed patches of several inches in extent of a dark colour upon the ileum. Upon opening this intestine these patches were found to be occasioned by a state of vascular congestion on the mucous surface, sometimes even apparently abrasions were observed; indeed, in one case there were several perforations, so that the contents of the intestine escaped into the cavity of the peritoneum. In these cases the fatal train of symptoms generally commenced with abdominal pain, but the state of the brain soon rendered the patient insensible to the progress of disease in the abdomen, although he may be still capable of giving a rational reply to the questions of his medical attendant.

"When the patients have survived a day or two after the result of the disease had been deposited on some internal part, bands of adhesions were observed; but in the rapidly fatal cases, the coagulable lymph and curd-like substance could be wiped off the organ, and then the surface would appear quite sound." 11.

From these and other circumstances, our author is induced to think that there is some peculiarity in this fever which disposes to the formation of a morbid matter that acts like a poison, and quickly destroys the powers of life. In this view, he is supported by Dr. Marsh, whose paper will be found reviewed in the present number of our Journal.* In former epidemics, our author had observed many symptoms which seemed to indicate a tendency to generate a morbid poison; but he did not meet with the regular train of symptoms in any individual case, such as occurred in the present epidemic.

"The generation of this morbid poison appears to take place at some uncertain period of the disease, and seems as if thrown on particular organs or parts, exclusively leaving all other parts of the body apparently in health. Probably the peculiar state of the patient's constitution at the time, may determine the situation where the morbid change may be developed." 16.

Impressed with the idea of such a tendency in the prevailing fever, our author sought to counteract it, and, for this purpose, tried the hydro-chloruret of lime—first with patients who had no prospect of surviving their disease under the ordinary mode of treatment. The following is an instance.

Case 5. John Coyne was admitted into the hospital in the last stage of dysentery which come on after a tedious fever. The discharges consisted of a bloody sanies, intermixed with a dark-coloured matter highly offensive. The stools were passed involuntarily, and the patient was reduced to an idiotic state. Dr. R. considered that erosion of the intestines had taken place, and that death was inevitable. He directed ten grains of the hydro-chloruret of lime to be added to the common enema of the pharmacopœa, and to be thrown up, night and morning. The stench was corrected, the evacuations became more natural, and pure blood was sometimes discharged. His tongue became clean and moist—but exhaustion increased, yet he lived a fortnight after this. No dissection was made, and we believe that Dr. R. was right in supposing that the intestines were ulcerated, and that death was inevitable.

6. Encouraged by the effects of the hydro-chloruret in correcting the fetid discharges in the above patient, our author next directed its administration to a female lying ill with dysentery after fever, and whose evacuations were so intolerable, that the other patients declared they could not stay in the ward. The first day after the injections, the patient experienced considerable relief of all the symptoms. In a few more days, the fetor was corrected. The progress of the cure was gradual and steady, and she entirely recovered.

Case 7. In this case the medicine was exhibited by the mouth. The patient was a very old man, of broken constitution, who was admitted for dysentery succeeding fever. He

* Vide Journal of For. Med. for January.

had frequent bloody evacuations, attended with great pain in the abdomen—tongue loaded—thirst urgent—great debility—some appetite. Dr. R. directed a mixture composed of ten grains of hydro-chloruret of lime, two drachms of tincture of colombo, and four ounces of water, to be taken in half-ounce doses every hour. Next day the tongue became moist, though still loaded. The medicine to be continued. On the third day the evacuations were changing to a more natural appearance, and he had longer intervals from purging and pain. The medicine was continued for a few days longer, when he got quite well.

Case 8.—This was a very formidable one. The patient had been in Sir Patrick Dunn's Hospital for dropsy, where he was tapped. A week after leaving the hospital, he was seized with dysentery, in which state he had been three weeks before he came into the Fever Hospital. He complained of severe pain in his bowels—had incessant alvine evacuations of thin fetid matter intermixed with bloody sanies. The abdomen was swelled, and his legs were œdematous. Two days were spent in the administration of some medicine, and then the hydro-chloruret was given, nearly in the manner above related. He soon began to mend, and in a fortnight, the dysentery had greatly abated, and he was able to sit up and put on his clothes.

The above cases were selected from a great number of the same kind. Dr. R. thinks they were cases that would, most probably, have terminated fatally under other treatment. Several cases are next detailed, in which the medicine was administered in certain stages of fever, and apparently with considerable advantage. These we need not state. The foregoing observations will probably lead many of our readers, in this and in other countries, to try the means recommended by Dr. Reid. We shall conclude this paper with the following extract, which also concludes the pamphlet.

"It may be necessary to state that the substance known in the shops under the name of hydro-chloruret of lime, is extremely variable as to the quantity of the soluble salt it contains. When first I employed this substance as a medicine, I prescribed the supposed necessary quantity of the dry substance. I soon observed, however, that the operation of the medicine appeared extremely irregular; I was, therefore, induced to examine the substance by some test which would give an indication of the quantity which was capable of being dissolved in water. As it was well known that this substance has the property of discharging the colour of indigo when dissolved in sulphuric acid, I directed three grains of indigo to be dissolved in three drachms of sulphuric acid, to which were added three ounces of water. This I reserved as a standard of comparison. Three ounces of dry chloruret of lime having been put into a pint of water, the mixture was occasionally stirred for twenty-four hours, and then filtered through paper. The strength of this liquid was ascertained by the number of drops required to discharge the colour of twenty-five drops of the indigo solution. I observed that the strength of the liquid varied from nine to twelve. It was, therefore, directed that each quantity of the solution, on being filtered, should be marked so as to indicate the strength, or the number of drops capable of discharging the colour from twenty-five of the indigo solution.

"I have selected the foregoing cases from a great number, as being those in which the evidences of the efficacy of the hydro-chloruret of lime were most unequivocal. From attentive observation relative to the mode of action of this remedy, I am induced to consider it astringent in its primary local action, without apparently exciting inflammation. In certain stages of dysentery, therefore, it will be found of the highest importance. The cases of Rose Macnamara and Heron evince its powerful efficacy in that stage of the disease which has been heretofore so tedious and intractable. As to its secondary influence, it seems to produce very general effects upon the functions of the ganglionic system, principally evident in correcting the formation of morbid matter. In some cases it appears to act as a diuretic. The urine, however, when increased in quantity under its influence, appears to be of that kind which was formerly supposed to indicate a termination of disease, thus agreeing in its effect with the observation of Hippocrates, '*cocta non cruda sunt evacuanda.*' More frequently perspiration seems to be its most evident effect. In such case also the same observation is fully applicable, as the perspiration is seldom profuse, but always of that healthy feel, which has been usually considered by the physician as the most satisfactory solution of a severe disease.

"From the observations I have made of the efficacy of this medicine, in cases which exhibited all the symptoms of that severe disease which medical writers have denominated yellow fever, I can with some confidence recommend it as a valuable remedy. Indeed, the cases to which I at present allude, having had all the symptoms of that formidable disease, which the difference of climate in these countries could admit, I am induced to expect, that when properly employed, the hydro-chloruret of lime will be found as valuable a remedy in the treatment of yellow fever, as mercury has proved in syphilitic disorders.

"When a remedy has been found very efficacious in some states of disease, the practitioner, by not carefully observing its operation in the animal economy, is induced to appropriate the medicine rather to the name of the disease as known to nosologists, than to the morbid actions which the remedy is peculiarly adapted to correct.

"The practitioner, therefore, should be careful not to expect too much from any single remedy, for the records of medicine show how many substances have been at times lost to the physician, and at other periods proving of the highest value in the science of medicine." 35.

From the Edinburgh Medical and Surgical Journal.

EFFECTS OF THE POISONOUS GASES ON VEGETABLES.

By Edward Turner, M.D. Lecturer on Chemistry, Edinburgh, &c.; and Robert Christison, M.D. Professor of Medical Jurisprudence and Police in the University of Edinburgh, &c.

Having been called on last July to give evidence before the Jury Court, in the case of Hart against Taylor, relative to the effects of a black-ash manufactory on the vegetation in its neighbourhood, and having been unable to find any distinct facts recorded respecting the influence on vegetable life of the gases disengaged in the preparation of that article, we were induced to make some experiments on the subject, which were originally intended for our private satisfaction only. But we have since understood, that the case in which we were concerned is no less than the third or fourth instance in Scotland of the same kind of manufactory having subjected the proprietors to a prosecution on the ground of its destructiveness to vegetation, while nevertheless no data have hitherto been made public, except those derived from the very equivocal and contradictory testimony of unscientific witnesses as to the actual mischief done around the works. We have therefore conceived that a succinct account of our observations may be useful to others who may chance to be similarly circumstanced with ourselves.—Since the trial, besides repeating our original experiments, we have tried the effects of other gases; and we have annexed the results, not that we imagine them to be important in themselves, but for the purpose of drawing the attention of the botanist to this little tried, but probably valuable instrument for investigating the physiology of plants. The interesting experiments of Mr. Marcet on the effects of solid and liquid poisons on vegetable life,* and those related in the subsequent remarks regarding the effects of the gases, will show, that the operation of poisons may furnish the attentive inquirer with as many useful facts in the case of vegetable as in that of animal physiology.

It was at first our intention to give an account of the leading facts brought out upon the several jury-trials alluded to. But on inquiry, we have found the evidence, as in most prosecutions for this description of nuisance, so opposite and irreconcilable, that we must rest contented with an abstract of our personal researches. The black-ash, we may simply observe, has been for many years a most important and extensive article of manufacture, being one of the substances formed in the course of the process for converting into soda the Glauber's salt, and more particularly the refuse in the making of bleaching powder. In the course of the process for preparing it, some chlorine and a good deal of sulphurous acid are evolved, and in those manufactories in which the black-ash is converted into carbonate of soda, an additional quantity of sulphurous acid is disengaged. It was to these gases, therefore, and more especially to the sulphurous acid, that our attention was drawn in the first instance.

The *sulphurous acid gas* appears to be exceedingly deleterious to vegetables, even in very minute quantity and proportion. We first observed that when four, or even only two cubic inches were introduced, along with a young mignonette plant, into the air of a glass jar of the capacity of 470 cubic inches, the leaves of the plant became greenish-gray, and drooped much in less than two hours and a half; and though then taken out and watered, it soon died altogether. We next found that when somewhat less than half a cubic inch was introduced into a jar of the capacity of 509 cubic inches, a mignonette plant introduced along with it began to lose its colour and to droop in three hours; and although taken out three hours after that it languished, and gradually died in the course of a few days.

But the peculiar effects of the gas, and its extraordinary destructiveness, are better shown when its quantity and proportion to the air are still less,—as, for example, in the following experiment. A wide-mouthed bottle, containing a mixture of six cubic inches of air and $\frac{2\,3}{1\,0\,0}$ths of a cubic inch of sulphurous acid, was fixed, mouth uppermost, on a stand twenty inches high;—at the bottom stood a young mignonette plant, a young laburnum tree six inches tall, and a young larch, which had been all transplanted at least five days before, and had recently been well watered;—and over the whole was placed and carefully luted to the table a glass jar two feet high, and of the capacity of 2000 cubic inches, so that the proportion of sulphurous acid was nearly a 9000th part. The jar stood in a situation where it was exposed to a bright diffused light, but not to the sunshine. We had previously found in a similar experiment with a mignonette plant alone, that it became affected in less than twenty-four hours; and in a subsequent experiment with a laburnum visible effects were caused by the same quantity and proportion in nine hours. In the present instance, on account of the large surface of moist earth exposed, which would absorb some of the gas, the effect was slower and less complete. In forty-eight hours, however, all the plants were distinctly acted on. The tips of some of the mignonette leaves and larch leaves were grayish-coloured, shrivelled, and dry-looking, and the three lower leaves of the laburnum were speckled with irregular grayish-yellow dry looking spots. The air was then renewed, together with the same proportion of gas, and it was allowed to act for forty-eight hours longer, during which the effects slowly extended towards the footstalks and over more of the leaves. The plants were then taken out. The earth continued moist. The middle leaves of the mignonette, but the lower leaves of both the larch and the labur-

* Ann. de Chim. et de Phys. xxix. 200.

num had suffered most. The leaves of the mignonette were withered chiefly at the tips or edges;—most of those of the larch at the tips, in some, however, at the middle;—those of the laburnum were affected more uniformly over their whole disk, they drooped considerably, a gentle touch was sufficient to break the leaflets from the footstalks, and the footstalks from the stem,—nay, some of the leaflets had dropped off while the plant was in the jar. The bud-leaves were not injured in any of the plants.

The effect of this poison seemed to resemble considerably the ordinary decay of the leaves in autumn. It was invariably produced in several repetitions of the foregoing experiment. The proportion of gas was sometimes a ten-thousandth only, the quantity a fifth of a cubic inch, and yet the whole unfolded leaves were nearly destroyed in forty-eight hours. We remarked that the withering and curling of the leaves always rapidly increased for an hour or two after the removal of the plants into the open air, so that some leaves which had been apparently but little affected in the jar died afterwards in the air quickly and completely. The whole plant, however, was never killed by these small proportions. Segments near the foot-stalks, particularly of the upper leaves, continued green and juicy, and the buds put forth fresh though generally stunted leaves. Even when the proportion of gas was larger, the plants were not killed altogether: the stem was not affected unless the proportion was considerable, and even then it was only the top which suffered.—It will be afterwards seen how different these phenomena are from the effects of deleterious gases not irritants.

It is particularly worthy of notice that the proportion of sulphurous acid which thus seems to be so deadly to plants, is hardly or not at all discoverable by the smell. When a ten-thousandth part of sulphurous acid gas was intimately mixed with air, we could not be confident that its odour was perceptible, although we have reason to think our sense of smell is acute; and when this proportion was mixed in the same jar, and in the same manner as in the experiments related above, but without either plant or moisture being present, we were certain that in eight hours no part of the air in the jar had the slightest odour of the gas. This fact, though simple, is an important one in regard to what has been stated in evidence on some prosecutions against chemical manufactories,—namely, that the emanations were not perceptible to the smell in the neighbourhood of the works, and therefore not likely to be in a state sufficiently concentrated to prove injurious.

We do not pretend to infer, as an absolute conclusion from these experiments, that manufactories from which sulphurous acid gas is disengaged even in large quantities must be injurious to surrounding vegetation. It is probable, nay certain, that, small as the proportion was which we have tried, the proportion contained in the air in the vicinity of the largest manufactories is a great deal less. But it seems certainly a fair presumption, that, when such extraordinary effects are produced in so short a time, by so minute a quantity, and notwithstanding so liberal an admixture of air, effects analogous, if not quite so fatal, will be produced by the lengthened application of a larger quantity, though inferior proportion of the same poison, in a state of constant renewal.

The next gas, whose effects we have particularly examined, is the *Hydrochloric*, or *Muriatic acid gas.*

Its effects have appeared to us not inferior, nay even superior to those of the sulphurous acid. In our first experiments with it we found, that four cubic inches and a half mixed with a hundred times their volume of air, and two cubic inches mixed with four hundred volumes, began to turn the leaves of a mignonette plant grayish-yellow in ten minutes, then caused it to droop, and in five hours killed it altogether and irrecoverably; and that the leaves were wet and acid. We next remarked that half a cubic inch in a thousand times its volume of air began to affect another mignonette plant in an hour, and killed all the leaves in twenty hours; that the plant, though then taken out with its stem erect, soon died; but that the leaves were not damp or acid, as in the former instances. Various inferior proportions were tried with similar results, till at length the following experiment was made:

A fifth part of a cubic inch of hydrochloric acid gas was mixed with three inches of air in a long jar, and placed under a glass receiver of the same size and form, and with the same precautions to secure a gradual and thorough mixture, as in the experiments with the sulphurous acid: the plants chosen were a healthy laburnum tree five inches tall, and a little larch tree. In nine hours the edges of some of the laburnum leaves appeared to be curling inwards; in twelve hours this effect was unequivocal. As the latter examination was made by candle light, we could not say positively whether the colour had faded. In twenty-four hours the leaves had all acquired a dull grayish-green colour, and dry appearance, and their edges were crisped and curled. The crisping effect increased during the next twenty-four hours, after which the plants were removed into the open air of the room. The lower leaves were evidently most affected, and some of them even dropped their leaflets when the plant was shaken; none, however, had escaped, except a young half-unfolded one at the top; all the rest seemed quite dead. As in the case of the sulphurous acid, so here the crisping and curling of the leaves increased rapidly after the removal of the plant from the jar; an effect which is probably to be ascribed to the more rapid evaporation of their moisture, no longer renewed from the leaf-stalks. The larch plant, whose changes could not be properly seen in the jar, on account of its colour being nearly the same in its natural as in its withered state,

was found on close examination to be wrinkled and dry, particularly on the lower leaves, and on the tips of them. Neither of these plants, however, died; the unfolded leaves were all destroyed, but the buds gradually expanded themselves, though nipped on the tops.

This gas must therefore be very injurious to vegetable life, since so small a quantity as a fifth of an inch, although diluted with 10,000 parts of air, destroyed the whole vegetation of a plant of considerable size in less than two days. Nay, we afterwards found that a *tenth part of a cubic inch in* 20,000 *volumes of air* had nearly the same effects. In twenty-four hours the leaves of a laburnum were all curled in on the edges, dry, and discoloured; and though it was then removed into the air, they gradually shrivelled and died. Like the sulphurous acid, the hydrochloric acid gas acts thus injuriously in a proportion which is not perceptible to the smell. Even a thousandth part of hydrochloric acid gas is not distinctly perceptible; a ten thousandth made no impression on the nostrils whatever, although great care was taken to dry thoroughly the vessels used in making the mixtures.

The other gases whose effects we have examined are chlorine, nitrous acid gas, sulphuretted hydrogen, ammonia, cyanogen, carbonic oxide, olefiant gas, and protoxide of azote. But our examination of these has been cursory.

Chlorine may be expected to have the effects of hydrochloric acid gas; and so indeed it has; but they appear to be developed more slowly. Two cubic inches in two hundred parts of air did not begin to affect a mignonette plant for three hours; half a cubic inch in a thousand parts of air did not injure another in twenty-four hours; but when the plants did become affected, the same drooping, bleaching, and desiccation were observed.

Nitrous acid gas is probably as deleterious as the sulphurous and hydrochloric acid gases. In the proportion of a hundred and eightieth it attacked the leaves of a mignonette plant in ten minutes; and half a cubic inch in 700 volumes of air caused a yellowish green discoloration in an hour, and drooping and withering in the course of twenty-four hours. The leaves were not acid on their surface.

The effects of *Sulphuretted-hydrogen* are quite different from those of the acid gases. The latter attacked the leaves at the tips first, and gradually extended their operation towards the leaf-stalks; when in considerable proportion their effects began in a few minutes, and if the quantity was not great the parts not attacked generally survived if the plants were removed into the air. The sulphuretted hydrogen acts differently. Two cubic inches in 230 times their volume of air had no effect in twenty-four hours. Four inches and a half in eighty volumes of air caused no injury in twelve hours, but in twenty-four hours several of the leaves, without being injured in colour, were hanging down perpendicularly from the leaf-stalks and quite flaccid; and though the plant was then removed into the open air the stem itself soon began also to droop and bend, and the whole plant speedily fell over and died. When the effects of a large quantity, such as six inches in sixty times their volume, were carefully watched, it was remarked that the drooping began in ten hours at once from the leaf-stalks, and the leaves themselves, except that they were flaccid, did not look unhealthy. Not one plant recovered, any of whose leaves had drooped before it was removed into the air.

The effects of *Ammonia* were precisely similar to those of sulphuretted hydrogen just related, except that after the leaves drooped they became also somewhat shrivelled. The progressive flaccidity of the leaves,—the bending of them at their point of junction with the foot-stalk, and the subsequent bending of the stem,—the creeping, as it were, of the languor and exhaustion from leaf to leaf, and then down the stem, were very striking. Two inches of gas in 230 volumes of air began to operate in ten hours. A larger quantity and proportion seemed to operate more slowly.

These phenomena, when compared with what was observed in the instances of sulphurous and hydrochloric acid, would appear to establish, in relation to vegetable life, a distinction among the poisonous gases nearly equivalent to the difference existing between the effects of the irritant and the narcotic poisons on animals. The gases which rank as irritants in relation to animals seem to act locally on vegetables, destroying first the parts least plentifully supplied with moisture. The narcotic gases—including under that term those which act on the nervous system of animals, destroy vegetable life by attacking it throughout the whole plant at once. The former probably act by abstracting the moisture of the leaves, the latter by some unknown influence on their vitality. The former seem to have upon vegetables none of that sympathetic influence upon general life, which in animals follows so remarkably injuries inflicted by the purest local irritants.*

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* Other occupations prevent us making the requisite inquiries for examining such practical conclusions as our experiments seem to lead to. One, however, may be briefly mentioned. The differences described above show that the injury sustained by vegetation in the heart and vicinity of a great city must be caused by some irritant gas, if circumstances regarding the soil and exposure do not account for it, which they seldom or never will. The plants are rarely killed together; their vegetation is merely blighted for the season. In the spring it recommences with a luxuriance not surpassed in country situations; but when the leaves attain maturity, and have no longer the superabundant supply of moisture they received while young, they are blighted anew. How exactly do these phenomena concur

Cyanogen appears allied to the two last gases in property, but is more energetic. Two cubic inches diluted with 230 times the volume of air affected a mignonette plant in five hours; half a cubic inch in 700 volumes of air affected another in twelve hours; and a third of a cubic inch in 1700 volumes of air, affected another in twenty-four hours. The leaves drooped from the stem without losing colour, and removal into the air, after the drooping began, did not save the plants.

Carbonic oxide is also probably of the same class, but its power is much inferior. Four cubic inches and a half diluted with 100 times their volume of air had no effect in twenty-four hours on a mignonette plant. Twenty-three cubic inches, with five times their volume of air, appeared to have as little effect in the same time; but the plant began to droop when it was removed from the jar, and could not be revived.

Olefiant gas, in the quantity of four cubic inches and a half, and in the proportion of a hundredth part of the air, had no effect whatever in twenty-four hours.

The *Protoxide of Nitrogen*, or intoxicating gas, the last we shall mention, is the least injurious of all those we have tried; indeed it appears hardly to injure vegetation at all. Seventy-two cubic inches were placed with a mignonette plant in a jar of the capacity of 509 cubic inches for forty-eight hours; but no perceptible change had taken place at the end of that time.

In all of the foregoing experiments, with the exception of those made with minute proportions of the sulphurous and hydrochloric acid gases, the gas was placed at the bottom of the jars, and the plant on a stage raised nearly to the top of them. It is hardly necessary to add, that comparative experiments were also made on plants in jars of pure air.

It is well known that plants are sometimes affected differently by the same agent. Some thrive in situations which are injurious to others, and where to all appearance the difference does not depend on the nature of the soil alone. Sir H. Davy found that while some plants grow in an atmosphere of hydrogen, others are speedily destroyed by that gas. We may hence anticipate that a variety of curious and interesting results would be obtained by experiments directed with this view; but circumstances have not permitted us to undertake the inquiry. We may observe, however, that of six different species of plants subjected to the action of sulphurous acid, all of them appeared to be affected by that gas nearly in an equal degree.

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with what we should expect from the influence of the irritating gases as ascertained in our experiments. Such a gas, it is well known, is disengaged in abundance from our coal-fires, —namely the sulphurous acid. There has long been a vulgar and very general notion, that coal smoke diffused and diluted in the atmosphere hurts vegetation; but we are not aware that it has rested till now on any solid reason. A curious fact, indeed, and the only one we have been able to find, is mentioned in Evelyn's *Fumifugium*,—namely, that one year, when Newcastle was besieged during the civil war at the Revolution, and coals were in consequence exceedingly scarce in London, in various gardens of the nobility in the metropolis, fruit trees, which never bore fruit either before or after, were loaded with it. But the Fumifugium contains so many monstrous and incredible facts, and shows such an uncompromising determination to call in the aid of coal-smoke to account for every thing wrong in London which could not be more easily explained, that the modern inquirer will naturally pause before he gives the lively and ingenious author credit even for what appears probable.

From the London Medical Gazette.

Medico-Chirurgical Transactions.

TREATMENT OF NÆVI MATERNI BY LIGATURE.

By W. Lawrence, F. R. S. Surgeon to St. Bartholomew's Hospital.

The nature of these affections is not clearly ascertained, and it is pointed out in a note that the term nævus has been applied to different forms of congenital malformation. Sometimes the nævus consists merely of some peculiarity in the colour, texture, or thickness of the skin, which remains unchanged during life, requiring no surgical interference. In other instances, there is at the time of birth a red, purple, or livid stain, and a peculiar vascular growth is subsequently developed. In England, the word nævus is applied both to the blemish of the skin and to the vascular tumour beneath it; while in France, the term is limited to the former. Boyer calls them vascular growths,—*tumeurs variqueuses*, or *fongueuses sanguines*. Dupuytren gives them the name of *tumeurs érectiles*, which appellation is adopted by Breschet. Among other designations, that sometimes employed by the Germans is very characteristic, viz. *Blutschwamm*—blood sponge.—They are the aneurisms by anastomosis of Mr. John Bell.

In the treatment of these affections, the difficulty is to discover a method which shall be at once safe and effectual. Excision possesses the latter but not the former advantage, the hæmorrhage being often prodigiously great, and extremely difficult to control, particularly in children, who are the most frequent subjects of such operations. When the nævus itself is wounded, the bleeding is attended with a degree of violence which cannot be accounted for by the nature of the structure; and even when the incision is made in the skin at some little distance; and quite clear of the morbid growth, the operation is not unattended with danger. In the ninth volume of the Transactions, a case is detailed by Mr. Wardrop, in

which an infant expired under the knife, though the incision was made in the sound skin, and the tumour removed with great rapidity. The fungus in this instance was fed by an artery, so large as to admit a full-sized bougie.

Mr. Wardrop has several times used the kali purum, so as to produce sloughing; but Mr. Lawrence thinks that, although this method may succeed in many instances of small nævi, it would probably be as dangerous as the knife in those of larger size. He has only used it once, and then it was but partially successful.

Cold applications and pressure are, in the opinion of Mr. Lawrence, generally inefficacious or inapplicable. Pressure was particularly recommended by Mr. Abernethy (Surgical Works, v. ii.); and Boyer states that he has cured many such tumours by the same means. Among other instances, he mentions that of a grandchild of his own who had at the time of birth, a small bright red mark on the right temple; this soon increased, and at the age of two months had become perceptibly prominent. A bandage, with a pad rather larger than the mark, was applied during the day for three years, at the end of which time the disease was so far cured as to leave no fear of its further increase; the only remnant was a narrow line of a violet colour, corresponding to the circumference of the mark: this, at the end of four years, remained, without any change, the inclosed portion of skin being quite natural. In order to ensure success to this method, it is necessary that there should be a solid point of support, and that the compression be made to act permanently on the whole surface of the tumour, and be continued till it obliterates the cells of the nævus.

Tying the carotid has been suggested and practised with success by Mr. Wardrop; but it is obvious that it can be applicable in but very few cases.

A case having occurred at St. Bartholomew's, in which the great size of the tumour rendered excision inadmissible, Mr. Arnott suggested the plan adopted by Mr. White, of destroying nævi by ligature. The case in question is as follows:—

"J. B., an infant four months old, was brought to St. Bartholomew's Hospital in February, 1827.

"At the time of birth, a slight reddish discolouration of the skin, as large as a sixpence, was observed at the upper part of the back; this red spot was not elevated. Having remained of the same size and in the same state for three months, it began to enlarge, became elevated above the surrounding sound skin, changed its colour from red to a dull purple, and frequently discharged blood from openings on its surface. It continued to grow rapidly until the time of admission, when it presented a circular tumour five inches and a half in circumference, and projecting about three quarters of an inch. Its surface was slightly irregular, of nearly uniform prominence, and a little depressed in the middle; it was rather larger at the edge than at the base, which rendered the application of the ligature easy. It was of the kind denominated, by Mr. Wardrop, subcutaneous nævus. Although the skin had been distended and thus rendered thin by the growth of the tumour, it could be easily pinched up into folds on the surface, so that the disease was decidedly below the integuments. Its connexion to the muscles of the back was equally loose, and it could be moved from side to side with the greatest ease, or drawn up by the finger and thumb, and detached from the subjacent parts. It had a mottled appearance, being mostly of a dark livid colour. It was soft, and gave a sensation to the fingers like a collection of various vessels. Pressure diminished it considerably, and made it of lighter colour; it soon filled again. When the child cried or strained, it became larger and of a deep purple tint.

"On the 17th of February, I tied the tumour, elevating it from the muscles of the back with one hand, while I passed a large curved needle under the middle of its basis with the other, carrying the point of the needle in and out again, close to the edge of the base of the swelling. When the needle had been cut out, the two ends of the ligature, which had been left of equal length, formed two distinct ligatures applicable to the immediate purpose of the operation. They were then tied, as tightly as they could be drawn, just in the line of distinction between the tumour and the sound skin. The firm pressure thus made on the base caused a cracking of the tumour at the surface, from which a few drops of arterial blood escaped before the ligature was quite tight. The infant seemed to suffer considerably when the ligatures were tied, the process being attended with considerable dragging and stretching of the surrounding skin, which was thrown into several large folds. A soft rag dipped in cold water was laid over the part, and occasionally moistened. For thirty-six hours the child was restless, crying almost incessantly, and occasionally convulsed; at the end of that time it took the breast, which it had previously refused. An inconsiderable oozing of blood took place. On the 19th I sliced off the tumour, which had become almost black. The ligatures were quite loose on the 20th, and I removed them. A large slough occupied the centre of the wound, extending deeply; it came away in a few days under the application of bread poultice. The wound then granulated and assumed a perfectly healthy appearance, all the unpleasant symptoms having subsided after the removal of the ligatures. The process of cicatrization was slow, but it was at last firmly completed; and the former situation of this large tumour is now denoted by a very slight scar.

"The substance of the tumour, when it was sliced off on the 19th, was tolerably compact: its cut surface presented the sections of numerous blood-vessels, apparently venous, filled with coagulated blood: the largest were equal to an ordinary writing-quill. These vessels were connected by a firm grayish sub-

stance, of a somewhat fibrous texture. There was no appearance of cells."

Three other cases are detailed, in the two former of which the operation was successful; in the last instance the disease was but partially removed, and Mr. Lawrence thinks it probable that the operation may require to be repeated. The author inquires, what is the nature of the vessels in these tumours; and how is it that, while in their structure and appearance, they have the character of veins, the hæmorrhage should nevertheless be arterial when they are cut? Mr. Arnott in a letter to Mr. Lawrence on this subject, states that, from the examination of several tumours after their extirpation, he has been led to suppose that their structure is not cellular, as it is usually described to be, but that the vessels unite and open into each other so frequently as to give a cellular appearance, similar to that described by Cuvier, as existing in the penis of the elephant. With regard to the blood having the appearance of being arterial, he says it is only what takes place when other erectile tissues are divided, as in amputation of the penis. Mr. Lawrence, however, informs us, that he has never remarked this last circumstance, and looks upon this structure of nævi as more analogous to that of the corpus spongiosum urethræ, than to that of the corpus cavernosum.

In the application of the ligature, considerable force must be applied, so as to effect the strangulation of the parts; and it is therefore of importance that the material of which they are composed should be of sufficient strength. Mr. Lawrence uses stout silk twist, and suggests the precaution of previously trying its strength. As soon as it can be ascertained that the coagulation of the blood in the vessels composing the tumour and the consequent death of the part have been accomplished, the ligatures ought to be removed. Forty-eight hours appear to be sufficient for this purpose.

Mr. Lawrence's paper is followed by one, on the same subject, by Mr. Anthony White, in which he states, that it has, "during many years," been his practice to destroy nævi by the application of ligatures. When the tumour is not large, a needle may be carried under the base at its centre, thus transfixing the new growth; and a ligature passed behind the needle, and tied with a double noose will be sufficient. When the tumour is large the needle ought to be armed with a double ligature, one being afterwards tied at each side. In some situations the whole of the tumour cannot be included in the ligature; but Mr. White states, that in these the inflammation of the surrounding cellular membrane is generally sufficient to produce the obliteration of the remaining part of the nævus. In one instance, it was necessary to pass four ligatures, in order to strangulate the whole of the mass.

Several cases are detailed in which this mode of treatment was adopted. In the last of these only was the operation followed by a partial return of the disease, and this was owing to the impossibility of including the whole of the nævus in the ligature: in this case, however, the operation was repeated and with complete success.

From the Medico-Chirurgical Review.

HYPOCHONDRIASIS CURED BY AGUE.

The subject of this curious complaint was a gentleman, 55 years of age, meagre, nervous, and endowed with great sensibility of the digestive oagans, (doué d'une vive sensibilité des organs digestifs,) which sensibility was less in cold, and greater in warm weather. In the hot season of the year, he was teased with sense of distention in the stomach and bowels, loss of appetite, and tedious difficult digestion. As the winter approached, these symptoms diminished. He was fond of hunting, and pursued this exercise both in summer and winter. He had been subject to the above symptoms for some years previous to the date of report; but they had considerably yielded to time and very trifling means, when, during the lent of 1824, he determined to live in the most rigid forms of that religious fast; subsisting chiefly on fruit and vegetables. At this time, also, he met with some moral afflictions, and the consequence of both these causes was a state of sombre and morose melancholy. He shunned society—became possessed of the most triste ideas—passed his nights without sleep, or in frightful and troubled dreams. In this state he was, as usual, advised to cheer up—enter into society—and make himself happy—things easily said, but not so easily done! In short, this gentleman became completely hypochondriacal. In July, 1825, he consulted M. Bonnardiere, his *morale* being considerably improved, but the *physique* in a very depressed condition. The digestive functions were greatly impaired—he had pain and weakness in his ankles and wrists, with various other unaccountable ailings. M. B. now administered the cinchona in powder, by which medicine the appetite was restored, and the mind greatly relieved. He entered into society, and began to partake of his usual active exercises. In one of these, he over-exerted himself, and the whole of the dyspeptic symptoms returned, together with the hypochondriasis. On the first days of August, the patient had some febrile movements in the system, and became so weak that he could not walk without the aid of a stick. In fact, a marked intermittent fever was established, and our author, borrowing a hint from Hoffman, determined to let the fever take its course for some time at least, with the hope that it might cure the hypochondriasis. During this experiment, there appeared some indications of mischief obtaining in the liver, as evinced by pain, tenderness, and some degree of fulness in that region—the strength was rapidly reduced by each paroxysm—and the Doctor, on the 17th of the above month considered it unsafe to withhold any longer the quinine,

which was accordingly administered. By the 24th, the period of the paroxysms was only marked by a slight cough and a loss of voice; on account of which it was not deemed necessary to interrupt the quinine. In the beginning of September the patient began to recover strength and spirits. He now took gradually increased exercise, and his appetite and digestion improved, and his amendment, corporeal and mental, was such as to surprise his friends as well as the Doctor. Some months afterwards, he had a relapse of the intermittent, but not of the hypochondriasis, which soon gave way to the sulphate of quinine. He has since remained quite free from his hypochondriacal ailments, and enjoys perfect health.—*N. Bibliot. Med.*

The author cites several writers who have maintained that fever has a powerful influence in checking chronic affections. Among others, he quotes Pugol and Dumas. There may be some reason to suspect that, in this case, the same cause which produced the intermittent may have previously operated in producing the affection of the stomach and the symptoms of hypochondriasis. The patient may have inhabited a situation where malaria abounded, and which shows it effects in various other ways besides common ague. We suspect that the hypochondriasis, in this case, was cured rather by the remedy administered for the ague, than by the ague itself. But of this we will leave others to judge, having presented them the naked facts of the case.

From the Medico-Chirurgical Review.

FRACTURE AND DEPRESSION OF THE FIRST DORSAL VERTEBRA.

[Guy's Hospital.]

A labourer, 30 years of age, was admitted, on the first October, under Mr. Bransby Cooper, with paralysis of the inferior half of the body. He had fallen from a ladder, with a "HOD" on his back, and against which his spine struck when he reached the ground. He was taken up insensible, and, when received into the hospital, was in that state of collapse which often succeeds severe injuries. On examination, a depression was discovered about the last cervical or first dorsal vertebra, without any wound. He is now sensible, and answers questions rationally. The functions of all parts receiving nerves from the spine, *above* the injury, are undisturbed, and *vice versa*. The breathing is almost solely carried on by the diaphragm, as the chest remains dilated, in consequence of the loss of power in the abdominal muscles, while the inspiratory muscles are unparalyzed. He has feeling as low as the third rib. To be cupped (re-action having taken place) to 20 ounces—ten grains of calomel—bladder to be emptied by the catheter occasionally. 2d Oct. Much in the same state: has had no stool—cannot void his water. To be bled from the arm—enemata—catheterism every 12 hours. 3d. In statu quo. Blood not inflamed. No action in the bowels. 4th. The same—bowels still inactive—enema. 5th. Bowels cleared of a large quantity of fæcal matters—no alteration for the better. Mr. Cooper and his dressers are said to have declared several times, that there was no depression of the spinous processes. 8th. Extensive sloughs were observed on the nates. Of this, the patient was not, of course, sensible. The patient exhibited little difference in his symptoms till the 14th October, when his urine was observed, for the first time, to be ammoniacal. On the 16th, the ammoniacal odour was much stronger—and the fatal event was evidently approaching, as the sloughs were spreading, and the various functions becoming more interrupted. He died on the 21st Oct.

Dissection.—The subject being placed on the table, the spine was again examined. The dissector's reporter, and Dr. Hodgkin, declared there was a depression—Mr. Cooper and dressers maintained their original opinion. The membranes of the spinal marrow were more vascular than natural, and rendered tense by a quantity of serous effusion underneath. Opposite the depression, (which was found in the place above-mentioned) the membranes were lacerated, and the medulla itself completely pressed out, forming a knob, adherent to the upper portion of the thus divided spinal column. This upper portion was reddened and softened for a space of two inches from the laceration. The lower portion was not so red, but much softer—especially the posterior column, in the centre of which was a brownish disorganised matter. The body of the vertebra was fractured, and slightly displaced. The articulating processes were overlooked; but it is concluded that they were fractured. One of the lungs was inflamed and œdematous. There was nothing particular in the abdomen. The coats of the bladder were slightly thickened, and the mucous membrane, at the most depending part, "was elevated in fungoid granulations, of a dark colour; and, on their surface, small ulcers might be detected." There were also some small ulcerations near the caput gallinaginis.—DISSECTOR.

Remarks.—The above case is interesting in several points of view. In the *first* place, it appears to have been a case where the spinal column was completely destroyed at the part where the fracture existed; and yet the patient lived 21 days—dying, at last, as much (or probably more) from the sphacelation on the nates, as the division of the spinal marrow. In the *second* place, it is rather unusual that the ammoniacal character of the urine should not have appeared till the 14th day after such an injury to the spine, and consequent paralysis of the bladder. We suspect there was some mistake here. In the *third* place, considering that the coats of the bladder almost always sustain injury from this ammoniacal urine, should not the urine be drawn off at shorter intervals than 12 hours? Would it not be better to

leave a *gum catheter* in the bladder? We know, indeed, that, in many of these cases, the urine is ammoniacal from the moment it is secreted in the kidneys; but this makes a still stronger argument for the frequent removal of the fluid, than if the change took place by mere remora in the bladder.

From the London Medical and Physical Journal.

CONSTIPATION OF THE BOWELS DURING TWENTY-ONE DAYS, *successfully treated.* By John Jones, Esq. Member of the Royal College of Surgeons.

The following case of protracted constipation appears interesting from the long continuance of the obstruction, the painful symptoms with which it was accompanied, and its successful termination after resisting the most powerful means for twenty-one days. If you consider it worthy a place in your valuable Journal, I shall feel obliged by its insertion.

Mary Swindell, ætat. between fifty and sixty, mother of eighteen children, rather corpulent, of a sallow and unhealthy complexion; her general health tolerably good, excepting that she is occasionally affected with colic from constipation. Of late her bowels have been regular; but on Friday the 24th of August, she was attacked with spasmodic pains, accompanied with sickness. I saw her on the Monday following, and found that her bowels had not been moved since the preceding Friday morning, although she had taken in succession a dose of castor-oil, an ounce of Epsom salts, and a scruple of extract. colocynth. comp. She complained of occasional severe pains of the abdomen, which were not, however, increased upon pressure. Tongue furred; pulse natural. I bled her ad ℥xij.; ordered fomentations to the abdomen, a drop of croton-oil to be given immediately, and repeated in two hours if the bowels were not relieved.

28th.—Pain less frequent, and sickness abated; in other respects the same as yesterday. The following pills were prescribed. ℞. Submur. hydrarg. gr. xij.; pulv. jalap. ʒij.; syrup. q. s. ut fiat massa, divided in pil. xij. capiat ij. quaque quartâ horâ.—An enema, with soft soap dissolved in warm water, to be injected in as large a quantity as can be retained, and repeated two or three times a day.

29th.—Medicines produced no effect, excepting that a few scybalæ followed one of the injections. Repet. enema, cui adde ol. ricini ℥ij.

30th.—Symptoms the same. A turpentine injection was given, and the enemata with soft soap continued.

31st.—Still unrelieved. Four drops of croton-oil to be given in divided doses.

Sept. 1.—Croton-oil produces uneasiness and restlessness, but no effect upon the bowels. The following mixture was ordered. ℞. sulph. magnes. ℥ij.; inf. sennæ ℥vj.; tinct. jalap. ℥ss. M. capiat cochl. iij. quaque secunda horâ.

2d.—Complains of great uneasiness and fulness of epigastrium. An enema with infusion of tobacco administered, which produced considerable depression, but no evacuation, excepting a few hard scybalæ.—Six drops of croton-oil made into three pills, one to be taken every two hours.

3d.—Pills were returned by vomiting. A tobacco-smoke enema was administered, after which she was more composed: it was repeated in the course of the day.

4th.—Free from pain, excepting uneasiness at the scrobiculus cordis. An emulsion with two ounces of castor-oil to be given in divided doses.—Tobacco smoke injection repeated.

5th and 6th.—She continued free from pain, but was occasionally sick. Enemata with soft soap frequently administered, but without producing any evacuation.

7th.—Uneasiness and fulness of epigastrium increased, accompanied with much sickness and vomiting of an acid liquor; tongue greatly loaded; pulse about ninety and rather hard. Fearing the supervention of inflammation, I again bled her ad ℥xij.; and ordered the tobacco-smoke injection to be repeated.

In the evening of this day, another surgeon accompanied me to see her. The whole of the abdomen was much swollen since the morning: the swelling was elastic, resisting and, when struck, sounded hollow, evidently indicating the existence of tympanitis. We considered the case hopeless. The following pill was given at bedtime. ℞. submur. hydrarg. gr. vj.; pulv. opii gr. j. M.

8th.—Slept tolerably well; is free from pain; sickness less urgent. Repet. pilula. cui adde extr. colocynth c. gr. viij.

10th.—Sickness has returned with greater violence; the stomach will retain nothing. What is vomited has the appearance of coffee-grounds.

Dr. Forester, senior physician to the General Infirmary of this place, was requested to see her. He considered the swelling of the abdomen tympanitic, and that, unless the bowels were relieved, she could not long survive. He prescribed an injection with three drops of croton-oil, pills with socotrine aloes alone, and the effervescing draught, with tincture of hops and sirup of poppies to relieve the irritability of the stomach.

11th.—Injection produced no effect. Sickness was relieved by Dr. Forester's prescription, but has again returned, accompanied with vomitings of the same coffee-ground appearance. She sleeps much, and refuses to take more medicine.

12th.—Symptoms unabated. Complains of great uneasiness at the scrobiculus cordis; tongue greatly furred; swelling of the abdomen increased, and more tense; coffee-ground vomitings continue; pulse quick and feeble. She entirely despairs of recovery; her friends also have given her up, and are anxiously expecting her dissolution. As a last effort, I prescribed the following liniment, to be well rubbed upon the abdomen, particularly over the region of the stomach and arch of the

colon, every two or three hours, and each rubbing to be continued for at least twenty minutes. ℞. camphoræ ʒj.; ol. oliv. opt. ℥jss.; liq. ammon. ℥ss. M.

13th.—Liniment has been used, but not so frequently nor assiduously as directed. Ordered to be continued with more regularity.

In the evening of this day, the twenty-first from the commencement of the attack, the nurse brought me the unexpected and gratifying information that our patient was at length relieved. About half an hour after friction with the liniment had been well used, she had a most copious liquid evacuation, which was soon followed by others equally copious, having the consistence and appearance of yeast. I immediately visited her, and found a great alteration for the better. The poor woman seemed overpowered with feelings of gratitude; all her painful symptoms had vanished; the swelling of the abdomen had entirely subsided; the sickness and oppression at the stomach were removed; pulse resumed its natural quickness and strength; and she expressed her general feelings by emphatically exclaiming "I am now in heaven!"

From this time no unpleasant symptoms recurred, and she now enjoys her usual health.

From the Medico-Chirurgical Review.

INFLUENCE OF THE STOMACH ON THE MIND.*

The intimate sympathy which subsists between the brain and stomach has long been acknowledged; but we are quite convinced that two-thirds of the *effects* of this sympathy fail to be traced to their proper source. Thus, stomach affections are every day attributed to errors in diet, or other common physical causes acting directly on the organs of digestion, when the real cause is a *moral* one, acting through the medium of the mind, or, what is the same thing, through the medium of the mind's organ, the brain. So, on the other hand, we see disordered intellectual functions attempted to be traced to purely *moral* causes, when these causes are purely *physical* ones, deranging the mind through the medium of the stomach. Singular and incredible as the opinion may appear to those who have not much studied the subject, yet we have no hesitation in stating it as our conviction, that—*moral* causes act most frequently on the stomach and other digestive organs, while *physical* causes act most frequently on the mind. This view of the subject would incline one to think that, when a morbid impression is made on any organ—say the brain, as by a piece of bad news or the like, the organ primarily impressed immediately throws the onus on some other with which it sympathises, as, for instance, the stomach or liver. These latter, on the other hand, when disturbed by improper diet, or other causes, shift the suffering from themselves to the brain, in the first instance—thus acting like individuals in this world—every one for himself!

This seems to be pretty nearly the conclusion to which M. Bayle has come. "Every action, (says he) which is somewhat too energetic in one of these two organs (the brain and stomach,) awakens a sympathetic affection in the other, and *vice versâ*. It is thus that the work of digestion, particularly if too laborious, or if the food has been in too great quantity, renders the senses more obtuse, exercise less relished, and induces an inclination to sleep. A very small quantity of spirituous potation has this effect on many people who are morbidly sensitive. Tea and coffee, on the contrary, excite the brain and intellectual faculties through the medium of the stomach, so as to prevent sleep for a time—and this before they can possibly be absorbed into the current of the circulation, and thus act directly on the brain." "On the other hand, the influence of the brain on the stomach is not less evident under a great variety of circumstances. The *sight* of nauseous objects often causes sickness of stomach, while that of savoury viands immediately excites an appetite. A blow on the head, and inflammation of the brain, will cause vomitings, and violent pain in the epigastrium."

The main subject of investigation, however, which is here proposed by our author, is, the reciprocal influence of chronic inflammation of the mucous membrane of the stomach and bowels in the production of mental maladies, and of mental maladies in the production of these gastro-enterites. This important investigation is to occupy several memoirs in the Revue Medicale, and we shall take care to follow M. Bayle as he proceeds. The cases which come forward, on this occasion, will be valuable, whatever may be thought of the doctrine which they are meant to support.

Case 1.—Madame H——, aged 63, of violent and tyrannical temper, had experienced, for some years, considerable domestic chagrin, without producing any ostensible effect on her mental faculties, till the month of December, 1817, when symptoms of alienation appeared. She became taciturn—was haunted with religious fears—and complained of severe pains in the epigastrium. She consulted a priest, and was evidently worse after receiving spiritual consolation. She was now in constant dread of being poisoned, and refused all aliment—complained of dreadful pains in her stomach—wished ardently for death, and more than once attempted suicide. She could not be prevailed upon to speak on any other subject than that of her hallucination.

In this state, she entered the Maison Royale de Charenton, on the 7th March, 1818. Her complexion was yellow—countenance meagre and indicative of great melancholy—skin dry and harsh, with a strong tint of yellow—taciturnity obstinate—under constant persuasion that she was going to be poisoned and to undergo unheard of torments; hence evidently the desire of death, the attempts at suicide,

* On the Influence of Gastric Affections in the Production of Mental Maladies, and *vice versâ*. By M. Bayle.—*Revüe Medicale.*

the refusal of food, the groans and sighs, and the profound melancholy. This state continued without any alteration, except an increase of obstinacy in taking food; so that she was actually destroyed by this obstinacy, and died on the 14th May, in the greatest possible emaciation.

Dissection.—A considerable serous effusion in the ventricles, at the base of the skull, and in the spinal canal. The arachnoid was rather thickened and opaque—the pia mater injected—the lining membrane of the ventricles thickened, and covered with fine granulations. In the chest, the inferior portion of each lung was hepatized. The heart was sound, but rather flabby and pale. The stomach contained some yellow fluid, and its mucous membrane was throughout reddened, thickened, and, in one place, ulcerated to the extent of two inches in length by one in breadth. This ulcer was in the vicinity of the pylorus—had penetrated through the whole of the coats, and even into the pancreas, to which the stomach was adherent; so that, in fact, the ulcerated cavity in the pancreas made part of the general cavity of the stomach. There were some marks of inflammation in the mucous membrane of the small intestines. The gall-bladder was filled with a calculus, in the shape of a pigeon's egg, to which the parietes of the receptacle were every where adherent.

M. Bayle thinks there is fair reason to believe that, in this case, the gastric affection preceded the mental alienation, and had contributed considerably to it. This female was predisposed to insanity on both father and mother's side; and, therefore, the brain sympathised more readily, and to a greater extent, in this case, with the gastric disease. The author also thinks that the disease of the stomach was exasperated by the mental malady, and by the domestic chagrin to which the unfortunate patient had been exposed. In this we cannot but agree with M. Bayle.

The author throws out a curious hint, or rather opinion, in this place, which seems not entirely devoid of probability—namely, that the *form* of the mental hallucination was determined by the physical malady in the stomach:—That is, that the conviction of being poisoned was occasioned by the inflammation and ulceration going on in the stomach. It is no wonder that, under this impression, and suffering so much from an ulcerated stomach, she should hate, and endeavour to avoid society—refuse food—and attempt suicide! Many a poor wretch has raised his hand against his own life from a disordered stomach, without knowing where the source of his misery lay concealed!

The case above detailed offers another of those thousand ways in which nature endeavours to combat disease, or at least resist the consequences of it. The adhesion of the stomach to the pancreas no doubt preserved life, wretched as that life was, for some time; for had the adhesion not taken place, an extravasation into the abdomen of the gastric contents, would have happened long before.

Case 2.—Madam G——, an English lady, aged 59 years, of nervous temperament, and sombre disposition, entered the Charenton on the 30th January, 1819, and no precise account of her history could be obtained. It was discovered, however, that she had suffered, for some considerable time, from pain and sense of weight in the epigastrium, and that she had been in possession of her reason till the month of December, 1818, at which time she lost the greater part of her property, and her affairs became sadly deranged. It was then her intellectual faculties gave way, under the moral affliction. She now became possessed with the idea, that her attorney was about to arrest her and all her family, and immure them in prison. She saw and she heard a thousand things to confirm her suspicions, and her whole time is occupied in devising stratagems to elude her pursuers. This hallucination had occasional remissions, during which she partially recognised the baseless fabric of her apprehensions. At other times she had exasperations of the terror above-mentioned, accompanied by violent pain in her stomach, at which periods she refused food, and the bowels were obstinately constipated.

When she came into the Charenton, she presented a triste picture of melancholy—paid little attention to what was going on around her—and was evidently occupied entirely with the subject of her hallucination. "She was a lost woman—it was all over with her—she could not long survive, as her own feelings plainly told her—her head and stomach were the seats of dreadful pain—people were endeavouring to poison her." These ideas were so dominant, that she could speak of nothing else. She was in constant agitation—always wanting to get away—refused all aliment—bowels obstinately confined. These symptoms augmented in degree, but never changed their character. At the end of four months, this unhappy patient was in a melancholy situation. Her emaciation was great—she was harassed with violent cephalalgia, and acute pains in the stomach, sometimes accompanied by a burning heat of skin, and darting pains in various parts of the body. The greatest difficulty was experienced in exhibiting any food, as she was strongly impressed with the persuasion that it was always poisoned. She lingered out till the 28th March, 1820, when long sought death came to her relief.

Dissection.—There was an effusion of a sero-sanguinolent kind between the membranes of the brain, and in the ventricles. The cerebral substance was softened, but the meninges were not thickened. There was considerable hepatization of the lungs, and three ounces of serum in the pericardium—heart sound. The stomach was remarkably contracted, and took a peculiary lengthened form, from above downwards. The mucous membrane was covered with a thick layer of yellowish mucous matter, and underneath was very red throughout. The liver was gorged with blood, and its right lobe descended to

within two inches of the os ilii. The small intestines were very much contracted, and their mucous membrane slightly reddened. The colon was also greatly contracted, and singularly contorted in various directions. All the other abdominal viscera were healthy.

Although the gastric lesions above described cannot fairly be set down as causes of the mental alienation, yet there can be little doubt that the disorder of the stomach greatly assisted the moral causes of the cerebral disturbance. In short, we may conclude that in this as in a thousand other cases of less serious character, the two organs acted and re-acted on each other—that the physical disorder aided the moral causes in deranging the mind, while the moral causes contributed not a little to the disorder of the stomach.

Case 3.—M. A. aged 51 years, of nervous temperament, and eccentric character, was the son of a man whose intellects were rather suspected, and had a brother in a state of monomania. For a long time, M. A. complained of pain in his stomach, general discomfort, deranged state of his digestion, &c. which led him to consult a great number of physicians, and swallow an immense quantity of physic. He took a great deal of purgative medicine in particular, and thought he could not live without daily purgation. He became irritable, and quarrelled with most of his friends, though naturally of a good disposition. In 1814, he got into some trouble, in a public office to which he belonged, and was ultimately tried, for continuing an abuse introduced by his predecessors. He was however pardoned by the King in 1815, and in 1818 he got another situation under government. But he now became a violent Bonapartist, and denounced vengeance against the Bourbon race. It was plain that the man was deranged, and, in 1820, he was confined in an asylum. He conceived that all the men of letters in Europe had conspired against him, and that it was impossible he could escape their machinations. He refused food and drink, and emaciated progressively. On the 10th May, 1821, he entered the Charenton, in the condition above mentioned. During the first three months of his sojourn in this establishment, he presented the following phenomena:—Face pallid and sallow—answers pretty correctly to questions put to him, but shows imbecility of intellect—appears calm and tranquil. He conceived a violent friendship for an ideot in the same establishment, and was always at his side, attending to him and imitating his actions. When remonstrated with, he asserted that his friend the ideot was a person of high rank, and that he himself was commissioned to wait upon him. He was put into another quarter of the asylum, in order to break this attachment. He then devoted himself to constant employment. He was never a moment idle. He complained of pains in his stomach, would eat very little, and began to suspect poison in his food. Emaciation now made great progress, yet still he got out of bed every day, and wandered about the house. On the 2d November, 1821, he suddenly fainted away, and never recovered.

Dissection.—The arachnoid was slightly thickened, and the pia mater injected. The cerebral substance was softer than natural—no disease in the chest. The stomach was very much contracted, and the internal lining highly inflamed and thickened in its structure, especially towards the pyloric orifice. The mucous membrane of the duodenum was still more intensely reddened. The lining of the upper portion of small intestines was red, which redness gradually decreased as they descended towards the caput coli. The colon was free from disease. The mesenteric glands were enlarged—all the other viscera were healthy.

The same remarks apply to this, as to the former case. The state of the stomach can hardly be considered as a mere coincidence in this case. It was probably an active agent in the production of the mental malady.

Case 4.—Mad. B. aged 47 years, of nervous temperament, and delicate constitution, had a brother who died in a state of mental alienation. The storms of the revolution had made a deep impression on the young mind of the patient, and she received another shock in 1814, during the occupation of France by the allies. This shock was not lessened by the fear that her husband would lose his place under government, on account of the part he took after Bonaparte's return from Russia. Towards the end of 1814, she fell into a state of deep melancholy, and now she became haunted with the suspicion of being *poisoned*—of being led to the guillotine, &c. She sought solitude, maintained obstinate silence, refused her food, and attempted suicide. In this condition, with alternate exasperations and mitigations of her complaint, she continued till the year 1821, when she entered the Charenton, on the 6th April. The predominant idea was still that of being poisoned—that there were enemies in pursuit of her, and that her husband and daughter had deserted her. She had such an insurmountable aversion to animal food, that she could not be persuaded to taste it. She lived on a few ounces of bread daily. When food was forced upon her, she said it made her ill, and she frequently vomited it up again. About the middle of May, 1822, she became remarkably debilitated, and began to spit up purulent matter, attended with diarrhœa. She lingered out a wretched existence till the 6th September, when she expired.

Dissection.—The arachnoid was natural. The pia mater was injected, as was the substance of the brain. The lungs were hepatized in some places, excavated in others, and tuberculated generally. The mucous membrane of the stomach was chronically inflamed throughout, but more intensely so about the pylorus. The same might be said of the small intestines, with the addition of many ulcerations, some of which nearly penetrated through the whole of the coats. The mucous membrane of the colon was reddened, and

double its natural thickness. The mesenteric glands were considerably enlarged.

These, and other cases which are to follow, entitle us to conclude, M. Bayle thinks, that the chronic inflammation which takes place during mental alienation tends to keep up the intellectual disorder—to modify its form—and especially to determine that peculiar dread of being poisoned—that aversion to food—and that tendency to suicide, so conspicuous in the above cases.

We shall take up M. Bayle's other memoirs on this interesting subject as they appear in our Parisian contemporary.

From the Nouvelle Bibliotheque Medicale.

INTERMITTENT OPHTHALMIA.

By M. Jolly.

Madame Felix de Vermont, aged 58 years, having retired to rest in her usual health on the evening of the 28th of October, was suddenly awakened by a most acute pain, which occupied the orbit, temple, and a part of the right side of the face; the severity of the pain induced her to scream aloud, and the family immediately hastened to her assistance. Upon their arrival, the eye was already greatly tumefied, red, and weeping; the pain was of a lacerating character, accompanied with shiverings, obstinate vomiting, extreme agitation, anxiety, and loss of vision. M. Thillaye, who in my absence saw Madame de Vermont for the first time, directed sixteen leeches to the right temple, a soothing collyrium, and pediluvia with mustard, to be repeated every two hours. At 11, A. M. of the same day, I saw the patient. The violence of the symptoms continued with scarcely any abatement; the right eye was extremely red, painful, tumefied, and surrounded with ecchymosis; the pupil was considerably dilated, while that on the left side was contracted. The urine had been evacuated in considerable quantity, clear, and depositing a sediment; there was a slight degree of moisture on the surface. Twenty leeches were directed behind the ear of the affected side, and the other remedies to be continued.

29th.—The patient is more calm this morning, and complains only of a dull pain in the globe of the eye, which is more sensibly felt when the finger is drawn along the course of the superciliary nerve; the loss of vision in the affected eye still continues, the pupil is greatly dilated, and appears insensible to the impression of light; that of the other side remains contracted.

30th.—There is a slight degree of pain, but the appearance of the eye is unaltered. Prescription, twenty leeches to the malleoli; artificial Sedlitz water; continue the collyrium, pediluvia, demulcent beverages, &c.

31st.—Madame de Vermont is almost entirely free from pain, but with the right eye can scarcely distinguish light from darkness. It was decided to apply a blister to the back of the neck the next day, the patient refusing to permit the introduction of a seton; but about midnight she was awakened out of a deep sleep by violent pain in the left eye, accompanied with all the symptoms which have just been described, as having occurred in the right. Sixteen leeches were applied behind the left ear, and the other remedies were actively employed; but the disease continued its course unchecked till the day following, to diminish afterwards gradually as in the attack of her right eye three days before.

This periodical occurrence, taken together with the nature of the symptoms, left no doubt that they were those of an intense orbito-frontal neuralgia, attended with marked congestion, and perhaps also with extravasation in the globe of the eye; in a word, with *apoplexy* of that organ. The treatment was modified in accordance with these views, and an enema, composed of six grains of sulphate of quinine, with some antispasmodics, was directed to be given every four hours; the pediluvia, &c. to be continued.

On the 2d November, the pain had almost entirely left her, and she began to distinguish objects with the eye first affected; the left was red and tumefied with ecchymosis, and the sight entirely gone. The same treatment was continued, and a blister directed to the neck.

3d.—The vision of the right eye continued to improve; but that of the left is absolutely gone; it is little changed in its appearance since yesterday. The treatment above mentioned was continued till the 7th, during which period the inflammation of the eye diminished daily, and the sight gradually returned; it continued, however, somewhat impaired on the left side. During the last two days, the patient believing her health re-established, had omitted the enemata. At eleven, on the evening of the 9th, she was suddenly seized with a shivering, followed by pain in the left side of the head, but more severe about the temple, forehead and orbital region. This pain was accompanied, after a short period, with a sense of formication, numbness, almost total loss of motion, and diminished sensibility of the extremities of the left side; an obscure sensation was produced by pinching the cutis, and the patient was unable to walk without the assistance of two persons. These symptoms, together with the pain in the head, disappeared the next day, and she was restored to the state in which she was prior to the accession of the third paroxysm. A table-spoonful of the following mixture was directed to be taken every two hours. Sirup of diacodium, ether, of each, half an ounce; sulphate of quinine twelve grains, distilled water three ounces. After the twelfth day, the interval between each dose was increased to four hours; the redness of the eyes has almost entirely disappeared, and at the present time, November 18th, the cure appears to be entirely confirmed.

From the Nouvelle Bibliotheque Medicale.

POISONING BY SULPHURIC ACID.

By M. Robert.

Caroline Charpentier, aged 22 years, of a good constitution, attempted suicide 30th Sep-

tember, 1827, by swallowing about half an ounce of the sulphuric acid of commerce diluted with water. Acute pain in the fauces, in the course of the œsophagus, and in the epigastric region, with vomiting, followed immediately; and the catamenia, which had made their appearance the preceding evening, were suppressed; a few minutes after she was admitted into the Hôtel Dieu; her skin was cold, pulse small, lips and tongue white, and presenting a crisped appearance; the matter ejected from the stomach was of a greenish colour and in great quantity. Prescription, *two drachms of magnesia, diffused in a decoction of linseed and mallows.*

The following morning there was a slight increase in the temperature of the skin, pulse small and frequent, pain less severe; vomiting, diarrhœa. *Thirty leeches; cataplasms to the epigastrium.*

The third day, striæ of blood and white pellicles were found in the matter ejected by vomiting. During several successive days, the skin remained cool, and the frequency of the pulse diminished; the countenance was strongly indicative of suffering, although she complained less than before; the tongue had become extremely painful; the diarrhœa was relieved, and the appearances above noticed in the fluid thrown up from the stomach gradually lessened. On the ninth day, the pain in the fauces and œsophagus had nearly disappeared; it still continued, however, to a considerable degree in the epigastric region towards the great extremity of the stomach, and was augmented by pressure; the patient was tormented by an inextinguishable thirst, and from the irritability of the stomach, every thing which she swallowed was immediately rejected; there was no fever, the temperature of the surface and state of the pulse were even beneath the natural standard. *The demulcent beverages were directed to be continued, milk diet, &c.* Notwithstanding the preceding treatment, the strength and *embonpoint* of the patient gradually diminished, and she was troubled with obstinate constipation. Towards the end of October, there were some symptoms of a recurrence of the menstrual evacuation, which was attempted to be promoted by the use of the semicupium and other means; these measures failing, the discharge was supplied by the application of leeches to the vulva. The vomiting, which had diminished upon the accession of these symptoms, now re-appeared with the same intensity as before.

During the month of November, the patient was reduced to the last stage of emaciation and debility; every article of nourishment, how light soever, was immediately rejected from the stomach; the epigastrium continued painful to the touch, and from time to time, there were irregular accessions of fever. Towards the expiration of the month, the period at which the menses usually recurred, the lower part of the abdomen became painful and slightly tender upon pressure—the febrile accessions, gradually approximated each other.

In the beginning of the following month, the emaciation was extreme, the eyes sunken, and the cheeks deeply excavated; skin cold, pulse almost imperceptible; the tongue was covered with apthæ, and syncope supervened upon the slightest motion. She died on the seventh, sixty-eight days after her admission into the hospital.

On dissection, extravasations of coagulable lymph, strongly adherent to the surface, were found scattered along the course of the œsophagus. The stomach was greatly reduced in size, extending only three inches and a half from the cardiac to the pyloric extremity, and nearly two inches from the small to the great curvature; its form had undergone some remarkable alterations; all its right half was so much contracted that it did not exceed the size of the thumb; the small tuberosity had entirely disappeared, and in its place some strongly marked folds were observable. The superior surface of this organ, adherent for the space of an inch to the inferior surface of the left lobe of the liver, could not be separated without the assistance of the scalpel, and presented in this part an oval perforation three-fourths of an inch in diameter, the margin of which was rounded, thickened, indurated and whiteish. Examined interiorly, its cavity appeared scarcely capable of containing an egg; two irregular ulcerations with slate-like bases were observed near the cardia, the flexuous borders of which, were red and slightly projecting; a similar slaty appearance was observed over all the right half of the stomach, as far as the pylorus, where it ceased suddenly; the mucous membrane of this part had entirely disappeared, and the line of demarcation between this surface and the rest of the stomach, was marked by a small, red, sinuous, and slightly projecting circle; the sound part of the organ, that at least which appeared to have escaped the destructive action of the acid, was of a red colour, scattered over with black spots, and presented a velvet-like aspect, which was strongly in contrast with the granulated condition of the ulcerated surfaces. The pyloric orifice was greatly contracted, scarcely admitting the introduction of a quill.

The coats of the stomach were in general much thickened, especially in the anterior part of the right side, where they lay in folds, and had acquired an almost horny consistence. The pylorus presented a whitish and very resisting tissue, three lines in thickness; the remainder of the intestinal canal appeared atrophied, its mucous membrane was sound; the liver was very large, its right lobe reaching the iliac fossæ; the other viscera were in their natural condition.

From the London Medical Repository and Review.

EXTRAORDINARY CASE OF DROPSY.

By G. Hume Weatherhead, M. D., Member of the Royal College of Physicians of London, &c.

William Neale, 27 years of age, came under my care on the 15th of last March, with

the following symptoms:—considerable debility and emaciation; sallow complexion; yellow tinge of the conjunctiva; dropsical effusion into the abdomen; scanty urine, high coloured, and depositing a copious sediment, with the pinky lithate of ammonia adhering to the sides of the vessel; motions, clay-coloured; tongue rather dry, clean, and of a deep red colour; breathing becoming daily more oppressed by the increase of the fluid preventing the descent of the diaphragm; no œdema of the lower extremities: pulse 108, small and hard.

Neale had been a postillion, had led a free life, and previous to the appearance of the ascites, he had undergone repeated courses of mercury, under the judicious direction of Mr. Jeston, of this place, for a venereal affection, contracted nearly seven years ago. Complains of nocturnal pains in the head over the right parietal bones, and his general aspect indicates that peculiar sallowness so readily distinguished as characteristic of a venereal taint in the constitution.

The first indication of cure in this case was evident—that of eradicating any unextinguished virus, by submitting the system to a fresh course of mercury, a plan of treatment that seemed doubly requisite, as by it the torpor of the liver, shown by the clayey nature of the evacuations, &c., would be removed, independently of the well-known action of this medicine in exciting the excretions from the skin and kindeys. With these intentions, therefore, I prescribed the blue pill, combined with a small portion of squill. By and bye, the bowels became affected, his complexion at the same time clearing under the operation of the medicine, as well as the nocturnal pains abating in intensity: a little opium was added to the pill.

30th March.—Complains of pain in the region of the liver. Let a blister be applied over the seat of the pain, and let him take half a drachm of nitrous acid twice a day, in water —continue the pills as usual. The dropsy gradually increases.

Without specifying the prescriptions at length, or enumerating the varying symptoms as they occurred, which would needlessly lengthen this communication, suffice it summarily to say, that, after every syphilitic symptom had disappeared, and the dropsy still increasing, he was tapped for the first time, to relieve him of the oppression, when eight quarts of blood-tinged serum were drawn off, and in three days afterwards, seven quarts more were abstracted, which completely emptied the abdomen of the fluid. This plan was adopted by the operating surgeon, (Mr. Jeston) at my suggestion, from never having seen any preferable advantage accrue from evacuating the fluid of dropsy all at once, but perhaps the contrary. Neale was tapped for the forty-seventh time on last Tuesday, and will require tapping again to-morrow. At first he required tapping only once in ten days; next every week; lately, every third day, and at present every seventh or eight day; during which intervals the following plans of treatment have each undergone a full, and, in some instances, a repeated trial.

To aid the attack made on the liver, he used the aqua regia fomentations over the site of this viscus. The diuretic plan was adopted, during which he took the supertartrate of potass in small doses. Spiritus etheris nitrosi —decoct. junip.; acet. scillæ.; spt. junip. comp.; nitras. potassæ ex thea genistæ, in various forms of combination. A large portion of the abdomen has been repeatedly blistered, and the last time it was kept discharging by the ung. lyttæ, with which plan the vinum colchici and tinc. digitalis were conjoined. Polidoro's practice, of full nauseating doses of the antimon. tart. was next pursued, and taken afterwards in combination with colchicum. The diaphoretic system of treatment followed, and he took full doses of the pulv. ipec. comp. and pulv. jacobi, assisted by tepid diluents, without effect. The astringent plan was now tried, and he took kino, catechu and sulph. alumin. diversely combined, with the same result. A tonic plan was tried, and he took tr. mur. ferri, sulph. ferri, with extr. cinchonæ; the carb. ferri, in scruple doses, also the pulv. rehi. pulv. zingib. and sulph. zinci united, with the effect of improving his appetite, but without checking the effusion. The hydrogogue mode of treatment followed, and he took ounce doses of the cremor tart., extr. elaterii and croton oil in succession; each producing copious colliquative motions, and yet the fluid filled as fast as ever. He next tried the ol. terebinth. combined with the tinc. guaiac. comp. Electricity was next had recourse to, and he underwent its operations in the form both of sparks and shocks. Oil friction, joined with percussion, followed, and yet no benefit accrued. I now had recourse to strong mercurial ointment, rubbed on the abdomen night and morning, which induced copious watery diarrhœa. On the 30th of last September, he was tapped for the forty-eighth time, whilst under the influence of the mercurial action. Shortly after the operation constant and violent retching supervened, when, after long continued straining, flocculi, resembling coffee grounds, were brought up in the watery vomitings, accompanied by watery diarrhœa, sinking of the pulse, coldness of the extremities, almost continual hiccuping, inability to pass his urine but by drops; complete prostration of appetite and strength, both of which, till now, had remained good; gums, tender and swollen. The dropsy, it is observable, does not fill in. From this eminent state of danger he gradually rallied, by means of the spt. ammon. arom., ether sulph., aromatic medicines, wines, and nourishing soups during the day, and he took five grains of the extr. hyosc. every night at bed-time, the ointment being the meanwhile intermitted, and as he recovered, the fluid returned. He again required tapping on the 12th of the following month, and, on the 14th, I recommended the use of the ointment. Similar symptoms again ensued,

as soon as the mercurial action was fully established, and from which he again recovered, leaving a strong tendency to watery eructations, by which he discharges watery phlegm in considerable quantity, and certainly does not fill in so fast. At present, he takes ten grains of the phosphate of iron thrice a-day, and as many of Dover's powder at bed-time, my object being to restore his strength somewhat before I again subject him to a cautious use of the only remedy which has seemed to command the effusions; I mean the mercurial frictions.

Neale, as I said before, was tapped for the forty-seventh time on the 6th inst., and he has lost, in all, *five hundred and sixty-six pints of fluid.* The serum has all along been very milky in appearance, and it coagulated from the first by heat. Until very lately, his health was better than it had been before he was tapped at all. No more than from five to seven quarts came away at each operation, and the reason why this becomes necessary so frequently, arises from the great distention, apparently of the bowels alone, which remains after the fluid is drawn off, for no enlargement of the liver can be felt after the water has been evacuated, nor indeed of any solid viscus of the abdomen.

A very fortunate circumstance for the patient, throughout, has been, that the naval protruded early in the disease, forming a bag so large and thin, that the mere puncture of a lancet is all that is requisite for the evacuation of the fluid. Since the changes of the season, Neale's health has begun to decline, and especially since the two ordeals his strength underwent in the late struggles for mastery betwixt medicine and the disease. Yet his spirits continue good, and I have his unsolicited permission to open him, should he die. He has never had any œdema of the extremities; his thirst is moderate, urine clear and in good quantity, bowels regular, and appetite not bad, were it not for the watery eructations. That this is not a case of encysted dropsy is determined, I think, by the uniform and general enlargement of the abdomen; secondly, by the fluid filling in first from below, and, lastly, I may mention, that were it a congeries of hydatids which caused the tumefaction, it does not seem at all feasible that one of these should perforate the small aperture of the umbilicus; and that it is small has been ascertained, and it again expands around the sack of the protrusion.

From the Edinburgh Medical and Surgical Journal.

ON THE CAUSES OF THE FATAL TERMINATION OF CERTAIN CASES OF BRONCHOTOMY.

By William Cullen, M.D. F.R.C. Surg., Surgeon to the Royal Infirmary, Lecturer on Anatomy and Physiology, &c. &c.

In the year 1820, the author, when attending as a pupil at St. Bartholomew's, in London, was called upon to read before the excellent Medical Society of the hospital an essay on bronchotomy, which was subjected to the criticism of the members during a discussion of several nights. Having had his attention thus early directed to the subject, he has ever since been attentive to the progress of medical surgery in what relates to the trachea, and is enabled to reflect, with some satisfaction, that his own observations have not been entirely useless.

It is well known to those acquainted with the history of surgery, that bronchotomy was very rarely practised by the ancients, and only as the *ultimum remedium* in the most desperate cases of inflammatory cynanche.

Rarely practised by the ancients, it had fallen into complete oblivion among the moderns, till M. Louis, in the Memoirs of the French Academy of Surgery, recalled it into notice, explained the circumstances in which it was necessary, and described the best modes of performing it.

But Louis and the other French surgeons, his contemporaries, directed their attention chiefly to the case of foreign bodies accidentally dropt into the trachea; while they were comparatively ignorant of the far more numerous class of cases which depend on inflammation of some portion of the air-passages. To this part of the subject the attention of the profession was directed, first by Dr. Baillie, and after him by several writers in the earlier volumes of the Transactions of the Medico-Chirurgical Society of London, particularly by Mr. Lawrence, Dr. Farre, and Mr. Chevalier.

By the united researches of the French academicians and our own most intelligent surgeons, it was indisputably proved, that bronchotomy afforded the only chance of relief in the case of foreign bodies in the trachea, and the only chance of recovery in many cases of cynanche laryngea.

It was proved also that wounds of the larynx or trachea, though inflicted on membranous or cartilaginous parts, were not, on that account merely, of a very dangerous nature, as the ancients had erroneously supposed; and the *absolute safety of* the operation was perhaps too confidently maintained. At least, I must confess that I have been induced to form an opposite opinion from reflecting deeply on the uses of the larynx, and on symptoms which I have witnessed in cases that have fallen under my observation.

In illustration of the opinion that wounds of the air passages, even when inflicted on a healthy subject, are not only not trifling, but often highly dangerous, and followed by fatal consequences, the following case, which was treated by me in the Royal Infirmary, may be quoted.

* A. B. a healthy looking married woman, 25 years of age, and mother of one child, was

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* The dates of this case cannot be given, as the Journal has been purloined from the Royal Infirmary.—W. C.

subjected at home to many causes of mental irritation from the misconduct of her husband, and the unkindness of her friends. These acting on an irritable habit produced a great depression of spirits, under the influence of which she tried to lay violent hands on herself by cutting her throat with a table-knife. The instrument, however, was blunt, and she failed in her object, having been able to make only a slight incision of about three inches in length through the skin and cellular tissue over the crico-thyroid membrane. The latter likewise was divided to a small extent, and an opening was made into the larynx hardly capable of admitting the point of the little finger.

The accident occurred at 10 A. M.—When I saw the patient about noon I found the wound in the situation, and of the size above described; she breathed entirely through it, and consequently her voice was lost, except when the orifice was stopped up, when she spoke quite distinctly by means of the glottis. She had no difficulty of breathing; no attempt at coughing; no hemorrhage. In fact, she made no complaint. The case, however, seemed otherwise alarming. She was slightly delirious, always on the subject of her domestic grievance; the pulse was small and feeble; her face was rather flushed; the tongue was white and tremulous when protruded; and the countenance had a peculiar expression of anxiety and suffering. By means of a proper bandage the head was bent down upon the sternum, so as to close the orifice in the crico-thyroid membrane, upon which a simple pledget was applied, no other dressing being thought necessary, as it was determined to let the wound heal slowly, in its own way, by granulation.

The head symptoms seemed much more urgent; inflammation of the arachnoid membane was suspected, a disease which I have uniformly found most difficult of cure. When depending on mental distress it is a complaint often fatal, particularly when, occurring in those who have attempted their lives, it is treated too actively by blood-letttng. I contented myself, therefore, with desiring that the patient should have her head shaved, and that ice should be applied to it; that she should occasionally have a small quantity of wine and water if she seemed disposed to sink; that a brisk cathartic should be given; and that she should be removed to a darkened chamber, where she could be kept cool and perfectly quiet.

These measures appeared to have a very salutary effect. At 7 P. M. she was more composed; the expression of her countenance was improved; the dressings were displaced, and she breathed fully from the external orifice. The wine was ordered to be stopped, and the ice to be regularly continued.

The next morning she was reported to have passed a quiet but sleepless night. The pulse was firmer than before. She had some cough, or rather violent expirations in place of cough, unaccompanied by sputum of any kind.

In the evening the delirium seemed to have increased, with tendency to noise and violence. The respiratory symptoms were the same as before. Ten leeches were ordered to be applied to the forehead and temples.

Next morning she was rather better; the cough, however, was somewhat increased, and she had slight expectoration of viscid clear transparent mucus. This expectoration was brought up with great difficulty. It was expelled through the wound, not by coughing, strictly so called, but by expiration merely; and with so little force, that it had to be pulled out of the wound by the fingers of the patient or the nurse. A mucilaginous antimonial mixture was ordered. In the evening the symptoms were much the same as in the morning; the expectoration rather more copious; and the stethoscope detected acute inflammation in the smaller branches of the bronchi. A large blister was applied to the sternum, as the state of the intellectual functions and constitutional powers seemed to forbid the use of the lancet.

Next morning the patient was thrown into considerable agitation by a visit from her husband. She was very delirious at the visit at noon. The sputum was more copious, and still got rid of with much difficulty. She was ordered an anodyne draught, which procured a few hours quiet repose, and soothed her excited imagination. I was in hopes, therefore, that the patient was to do well, as she had no threatening symptoms referrible to the chest, and as the head symptoms were comparatively moderate and manageable.

Next morning, however, at five o'clock, Dr. Lubbock, the house-surgeon, to whom I am much indebted for his assistance in the management of the case, was suddenly roused from his bed, as the patient was reported to be dying. He found her on the point of suffocation; breathing very hurriedly with great difficulty; with the death rattle in her throat, livid face and cold extremities. She was unable to expectorate. Dr. Lubbock immediately introduced a large curved canula into the wound, through which the patient was enabled to take a full inspiration. The effect of the introduction of the instrument was, that the breathing became much easier; and, as the alarming symptoms evidently arose from the accumulation of mucus in the bronchi, *she was strongly recommended to cough as much as she could.* By degrees she was enabled to bring up mucus through the canula, not, however, by coughing, but simply by expiration, which, as the canula was of large size, she could perform with considerable force.

In the course of a short time, as the expectoration became more free, the alarming symptoms subsided; the rattle in the throat was no longer heard; the breathing became easy; and the expression of the countenance very greatly improved.

Having been thus apparently rescued from the very jaws of death, she was left under the care of the nurse, who was directed to request her from time to time to make attempts

at coughing. At noon, when I paid her a visit along with Dr. Lubbock, I found her very nearly in the state from which she had been recovered with so much difficulty in the morning. The canula had slipped out of the trachea; the extremities were cold; the lips livid; the pulse hardly perceptible; the respirations rare, difficult, and accompanied with a frightful rattle in the bronchi; no expectoration; no attempt at coughing; and a great degree of stupor. In a loud tone of voice I desired her to cough, *but she could not make the attempt.* To enable her to expectorate, to allow her to cough, I placed my thumb on the orifice of the crico-thyroid membrane, so that she breathed entirely by the glottis much more freely than she had done before through the artificial opening.

When the respiration was a little improved, I requested her to cough. She could now do so readily enough, and brought up some very tenacious mucus, by the excretion of which the respiration was still further improved.

In the course of about a quarter of an hour, in consequence of the free expectoration, the breathing became quite easy; the expression of the countenance improved; and the lips regained nearly their natural hue. I directed a dresser to remain constantly with the patient, to keep the crico-thyroid membrane closed with his thumb, and to direct her to make attempts at coughing from time to time, and, if she refused, to tickle the epiglottis with a feather. For about an hour and a half the patient complied with the directions given her, and coughed up a considerable quantity of mucus; but by degrees she became more and more insensible, and would not cough; titillation of the epiglottis produced no effect; the mucus accumulated in the bronchi; and she died of suffocation about four o'clock.

Sectio Cadaveris 21 hours after death.—Upon opening the cranium, the vessels were found much more numerous than usual, more highly injected, especially on the surface of the right hemisphere. There was a good deal of serum in the subarachnoid cellular tissue, but the serous surface of the membrane was perfectly natural.

The substance of the brain was more vascular than usual, but not inflamed, softened, or otherwise disorganized. There was a considerable quantity of serum in the interior of the ventricles, a large quantity also at the basis of the brain, where likewise the membranes were much more vascular than usual, particularly on the tuber annulare.

Upon opening the chest the pleura was found in a perfectly natural state.

The bronchi, particularly the left, were obstructed with bloody mucus. There was a small quantity in the trachea. The lungs were everywhere soft, crepitating, elastic, and only a little more vascular than usual.

In the neighbourhood of the wound the mucous membrane of the larynx was inflamed, and red from increased vascularity, but it was not thickened. There was no effusion of fluid into the submucous cellular tissue, and consequently no diminution in the diameter of the glottis. Immediately at the edge of the wound there was a slight effusion of lymph. The membrane of the trachea and that of the bronchi was inflamed and highly vascular, not thickened, but perhaps a little softer than natural, and it seemed as if the inflammation had spread down the air-passages, into the minute branches of the bronchi.

The case illustrates in a very forcible manner the truth of some observations on bronchotomy published in the number of this Journal for July last. I took occasion in that paper to call the attention of the profession to the physiology of coughing, and to the danger which necessarily attends on a copious secretion of mucus from the bronchi when an opening has been made in the trachea. For, to produce full and vigorous coughing, so as to clear the minute branches of the bronchi of their fluid secretion, the expiratory muscles must for a certain time act in opposition to the constrictor muscles of the glottis. When by this antagonism the former have acquired sufficient force, the latter are suddenly relaxed, and *in the moment of their relaxation* coughing takes place, and mucus or pus is expectorated along with the air thus violently expelled; but when an opening is made into the trachea expectoration immediately becomes difficult, for the expiratory muscles have no longer their antagonist constrictors of the glottis to act against. They cannot therefore acquire sufficient force to produce that strong current of air which is at least highly favourable to expectoration. A patient, therefore, after bronchotomy, cannot perform the act of coughing, properly so called. He can only expire with a force proportioned to the quantity of air he can take into the lungs.

The truth of these observations is borne out by what I have noticed in all the cases in which I have seen bronchotomy performed. I have uniformly observed that expectoration immediately became difficult after the operation. The patient could not drive the expectorated matter through the canula, for the current of air was too weak; and hence I have seen death ensue from a small quantity of blood getting into the trachea.

It was my thorough conviction of this truth that made me close the external wound entirely, when I found the patient on the point of suffocation. The effect of the closure was, that the muscles of the glottis were called into play; the patient was enabled to cough, and consequently to expectorate, so as to get rid of the mucus which obstructed the bronchi; she, however, had a few hours before derived equal relief from a directly opposite practice, viz. the introduction of a canula into the wound; and the alarming symptoms had recurred only because the instrument had been displaced. This fact admits of a very satisfactory explanation. A full inspiration is favourable to expectoration, and the force of the expiratory muscles is in proportion to the quantity of air inhaled. The wound in the patient's throat, never very large, was considerably di-

minished by the swelling of the surrounding parts; she could not therefore take in a large quantity of air, while, on the other hand, she had lost the use of the constrictor muscles of the glottis; and therefore her expectoration was difficult or rather impossible. But when a large canula was introduced, she could take in a large volume of air, on which the expiratory muscles could act with such force as to produce expectoration. Both practices, therefore, though diametrically opposed to each other, were perfectly judicious under the circumstances of the case; but on far different grounds. The closure of the external orifice allowed the muscles of the glottis to act, and genuine coughing to take place; by the introduction of a wide canula, a large quantity of air found admission to the lungs, which is to a certain degree a substitute for proper coughing.

These considerations lead to some important practical views, and enable us to explain the fatal termination of many of the recorded cases of bronchotomy. In the *first* place, the canula employed ought always to be large. If it be small, the breathing will be difficult. During the inspiration blood will be sucked into the trachea from the edges of the wound, and a quantity of air sufficient for the purposes of respiration will not be admitted to the lungs. *Secondly*, When inflammation exists in the minute branches of the bronchi, attended with plentiful secretion, the introduction of a large quantity of air is absolutely necessary for expectoration. A small quantity of air cannot acquire sufficient force to bring up along with it the secretions of the bronchi. We can explain on the same principle why bronchotomy is so rarely successful when diseases have extended into the minute branches of the bronchi. After the operation the expectoration becomes more difficult, from the constrictor muscles of the glottis being rendered useless. Mucus accumulates more and more down the air-passages, and the patient dies gradually suffocated.

In severe cases of inflammation of the lungs the expectoration is commonly suppressed a short time previous to death, but it does not cease to be secreted; it is only not excreted; for, in proportion as more and more of the lungs becomes useless for the purposes of respiration, of course, a less quantity of air can be introduced at each inspiration, till at last the quantity is insufficient for a forcible inspiration or coughing, then of course the minute branches of the bronchi continue loaded, and the patient is suffocated. These observations on the influence of bronchotomy on coughing and expectoration were partially laid before the profession in the number of this Journal for July last; but the paper was too concise and was misunderstood, particularly by the editor of the London Medico-Chirurgical Review. That gentleman may depend upon it that it is not wrong to say, that a patient with a tube in the trachea can most commonly only produce a current of air too weak for the purpose of expectoration. I have never seen a patient expectorate matter through the canula with any thing like freedom. It has been always necessary to extract the tenacious mucus by probes and other mechanical means. There has been uniformly a want of expiratory power which the constrictors of the glottis alone could have supplied. My professional friends have assured me that their experience has been of the same kind. They have witnessed the same difficulty of expectoration. The editor, likewise, as an argument against the truth of my views, objects, that, in the case formerly published, I had distinctly stated, that, on the first introduction of the tube, a fit of coughing supervened, attended to my great surprise with expectoration of semi-transparent viscid mucus. I was certainly surprised, *because I had no reason to believe that any mucus was secreted by the bronchi;* but the expectoration of it immediately after the introduction of the tube is not only not in opposition, but very strictly in accordance with my views of the physiology of the windpipe. The patient had laboured under laryngitis, by which the size of the rima glottidis had been so far diminished, that a very small quantity of air could be introduced at each inspiration; too little indeed for proper coughing. But as soon as an opening was made in the crico-thyroid membrane, and a large canula introduced, then the patient could breathe freely, and, though she could not cough, properly speaking, she could expire with considerable force, and thus get rid of a quantity of mucus in the way of expectoration.

From the foregoing statements I would draw the following practical conclusions:—1st, Bronchotomy should not be performed in cases where inflammation and copious secretion exist in the minute branches of the bronchi, at least such cases are most likely to terminate unfavourably. The operation, if performed, may relieve the breathing for awhile, but it may occasion in a short time a suppression of the expectoration.

2d, We should always make use of a large canula for the sake of permitting free expiration, the only substitute for coughing, which the patient can no longer effect.

3d, *The operation of bronchotomy is not in itself unattended without danger;* and even slight wounds of the trachea may be fatal from their effect in suppressing the excretion of the mucus of the air-passages. The case which I have just related is a good illustration of the manner in which a slight wound of the trachea may be fatal. The patient, a woman in the vigour of life, most carefully watched and attended to, died in consequence of a slight wound of the crico-thyroid membrane, because the inflammation extended down the windpipe into the bronchi, and was attended with secretion, which could not be expectorated on account of the wound below the glottis.

The same fatal termination had very nearly occurred in a young woman in the Royal Infirmary, a patient of my colleague Dr. Ballingall, during the autumn of last year. She

too had cut her throat slightly after her delivery of a still-born natural child. The wound was comparatively slight, and required no peculiar treatment; but the inflammation had extended down into the minute branches of the bronchi, and was attended with copious secretion. While the wound was closing, the expectoration became so difficult that suffocation was repeatedly threatened, which was averted, however, by the enlargement of the wound, and the introduction of a large canula.

I remember to have surprised the house-surgeon, Dr. Lobbock, by stating, that equal relief would have followed the complete closure of the wound by the thumb or fore-finger.

4th, The absence of expectoration may be either very favourable or unfavourable to the performance of bronchotomy. It is a very favourable symptom when it depends on the sound state of the mucous membrane of the bronchi. It is most unfavourable when it depends on such a closure of the rima glottidis that too small a quantity of air can be introduced to effect coughing.

Note.—Since writing the above, the author has been highly gratified by perusing in manuscript the case subjoined by M. Craigie. He begs leave to assure that gentleman of his high admiration of his skill, resolution and humanity, and to congratulate him on the successful termination of one of the most remarkable cases on record. He is also very much pleased to find his own observations confirmed by those of so judicious and acute an observer. W. C.

From the Edinburgh Medical and Surgical Journal.

CASE IN WHICH TRACHEOTOMY WAS SUCCESSFULLY PERFORMED. By William Craigie, Surgeon, Midclova, Aberdeenshire.

The case in which the operation of bronchotomy was performed by Dr. Cullen, as related in your ninety-second number, has induced me to send you an account of a case, in which I performed the operation of tracheotomy; as it may suggest a plan for obviating the unpleasant and sometimes fatal consequences of that operation, from the patient's inability to *cough*, or throw out mucus or blood by the wound, or tube commonly employed.

Thomas Cordoner, aged 56, sanguineous temperament, was subject for many years to habitual cough and copious expectoration. On the evening of the 24th April, 1825, passing near his house, I was requested to go and see him, as he was supposed to be dying. I found him sitting in bed with his arms extended, and grasping a post in each hand. Countenance inflated and purplish; eyelids dilated; breathing extremely difficult, with a sort of soft rattle as if in the trachea; voice almost suppressed, so that he was only able to exclaim in a whisper, "*Gie me breath.*" A considerable hard painful swelling, without perceptible fluctuation, occupied the left side of the neck, particularly under the angle and ramus of the lower jaw, preventing the jaw from being depressed, or the mouth opened to admit of an inspection of the throat; a similar but less considerable swelling also occupied the right side. He had been attacked three days before with pain in the throat and difficulty of deglutition, which, on the previous evening, began to produce difficulty of breathing, and on the morning of this day became very considerable, with suppression in the cough and expectoration. For several hours he had been expected every minute to die from suffocation. As swelling of the tonsils from acute inflammation was probably the cause of the breathing being impeded, *tracheotomy* was evidently indicated as the only means of saving his life.

The urgency of the case precluded the possibility of obtaining professional assistance or proper instruments, yet I determined to make an attempt to save if possible so valuable a life as that of the father of a young and dependent family. I accordingly prepared two quills, which became a substitute for a canula, and with my penknife proceeded to operate. The man being placed and supported on a chair with his body inclining forwards, I made an incision about an inch in length from the lower part of the thyroid cartilage downwards, in the mesial line, and then introduced the point of the knife under the cricoid cartilage, with an intention of dividing it and the crico-thyroid membrane; but finding the cartilage resist the knife, probably from ossification, I turned the knife and divided the two upper rings of the trachea. One of the quills was instantly introduced, and the man on making a partial inspiration, and stimulated to cough, partly perhaps from the quantity of mucus in the trachea, but more I believe from the irritation of the tube, forced out a considerable quantity of mucus. The other tube being introduced he made a full inspiration, with an attempt also to cough, which filled both the tubes with mucus, but from its tenacity forced none out, it being retracted by the succeeding inspiration. During several following expirations only a small quantity of the mucus, now very slightly tinged with blood from the wound, could be got out by getting it entangled on a handkerchief, as it appeared at the end of the tubes. Fearing that the man might still be suffocated from the quantity of mucus, it occurred to me that if one of the tubes was stopped, the air and mucus would be more forcibly ejected through the other. I accordingly, during an expiration, closed with the point of my finger one of the tubes, and found the mucus thrown out in greater quantity, and with considerable force.

About an hour after the operation, when the breathing had become regular, free, and easy, and the patient had repeatedly expressed by signs his satisfaction and relief, the person who held the light fainted, and in his fall extinguished it. In the consequent confusion both tubes slipped from the wound, and before the light could be rekindled, and the tubes replaced, my patient was again nearly suffocated, the divided rings of the trachea having come together and nearly closed the opening.

About twelve hours after this operation the tubes again came out; but now I was rather surprised to find that the wound did not close as on the former occasion, the divided parts of the cartilaginous rings remaining separated nearly a quarter of an inch. I did not therefore consider it necessary to replace the tubes; and when the patient wished to expectorate, I enabled him to do so, by laying my finger across the upper part of the wound, diminishing the size of the opening, and enabling him to throw out the mucus. Soon after this I left the patient, directing one of the attendants to lay his finger across the upper part of the wound when expectoration was necessary.

At my next visit in the evening (of the 25th) the breathing continued free, and he complained of hunger and thirst, but could not swallow any thing. No apparent alteration on the swelling. On the 26th about noon, and nearly forty hours after the operation, a quantity of purulent matter escaped by the mouth and nose, and the patient was aware of swallowing a considerable quantity, and he was soon afterwards able to swallow some gruel with considerable pain, but with great relish. I saw him about 2 P. M., and on closing the wound with my finger, he could breathe in the natural way, and was overjoyed to hear again the sound of his own voice. It being unnecessary to keep the wound longer open, simple dressings were applied to it, and in eight or ten days it was completely healed. This man has since been as well as formerly. He says that he is better, his cough and expectoration being somewhat alleviated.

The fortunate issue of my case was no doubt highly satisfactory. Yet I know not whether I could be justified in performing the operation under the peculiarly unfavourable circumstances, viz. the want of proper assistants, of instruments, and of proper light; for we had only a sort of torch of thin splits of the resinous roots of the fir tree,—a common subsitute for candle among the poorer classes in the country, and the extinguishing of this was attended with nearly fatal consequences. The quantity of mucus in the trachea seems also to have been an unfavourable circumstance, though I was not aware of this at the time. The quills were prepared with a slit at one end, to allow the two sides to be pressed together to enter readily, and keep the cut parts of the cartilage separate by its elasticity. A small notch was also made on each side to prevent it from slipping out too readily. My intention originally was to use only one quill, not as a canula, but for the purpose above stated, in regard to the cricoid cartilage; but I had fortunately prepared two, which formed a valuable substitute for the ordinary tube.

From the London Medical Gazette.

CASE OF STRANGULATED HERNIA.

Two cases of this kind have occurred lately at this hospital, and as they bear upon an interesting and important practical question, we shall give a succinct account of them here.

Case 1. William Fox, æt. 22, a hale young countryman, was brought in at twelve M., Dec. 5th, from Stanmore. He states that he has been subject to rupture since childhood, and that, till within the last twelve months, he wore a truss, although there always remained some swelling at the part on which the instrument was applied. For the last year he has laid aside the truss altogether, and felt no inconvenience; nor did any additional protrusion occur until five o'clock last night, when, after wrestling, he found a swelling in the groin. He vomited soon afterwards. A surgeon who saw him bled him freely, and tried the taxis, which however, failed. He passed a bad night, and the taxis was again ineffectually employed this morning.

On admission, there was seen a large scrotal hernia on the left side. The tumour was very tense and tender upon pressure; the integument not discoloured, and the testicle could be felt below and rather behind the tumour, on which it was moveable, in that respect differing from congenital hernia. No pain on pressure of the abdomen; pulse 90, not very hard; tongue white; no anxiety of countenance. The bowels had not been opened since the 3d, and he vomited fluid given him. He was placed in the warm bath for nearly an hour, and, on being removed to bed, was bled to syncope. The taxis was then employed by Mr. Bushell, and afterwards by Mr. Rose, but without effect. Five P. M. —cold by means of the sulphuric æther, and bags of pounded ice, has been applied for the last two or three hours, with occasional attempts at reduction. These failing, he was again bled to syncope, and the taxis had recourse to; but no impression being made upon the tumour, Mr. Rose, after some objections on the part of the patient, proceeded to the operation.

On cutting into the sac much bloody serum escaped, and a layer of omentum was exposed, enveloping a large fold of small intestine. The omentum was, comparatively, but little altered, whilst the intestine, though still glossy and firm, was very dark and discoloured. The stricture, which was at the outer ring, and exceedingly tense, was divided, and the gut carefully returned, when it was discovered that a quantity of omentum still remained in the sac, to which it had contracted firm, and evidently old, adhesions. This it was not deemed prudent to return; it was accordingly disturbed as little as possible, and the integuments brought together by five or six sutures, with adhesive straps and compress. Small doses of sulphate of magnesia in peppermint-water every two hours.

He passed an excellent night, and had two or three stools; but on the evening of the next day he complained of a good deal of pain in the tumour, increased on pressure, and stretching from that up to the umbilicus. Pulse 100; skin hot and dry; great thirst. V.

S. ad ℥xx. H. sal. c mag. Sulph. 6tis horis. These means, with the application of twenty-five leeches, and to the abdomen fomentations, greatly relieved the pain there, but a good deal still remained in the tumour. On the 8th, the pulse was 100, full and bounding; tongue brownish in the centre; nausea; occasional chilliness. The straps were removed, and the wound found to have in great measure united, but a degree of fulness was observed at its upper part. V. S. ad ℥xij.

9th.—He fell into a perspiration after the bleeding, and passed a good night. Looks anxious now; pulse has more jerk; nausea; headach; thirst. There is a distinct blush with a little œdema about the wound, and at the outer and upper part of the tumour there is evident fluctuation. Into this part a puncture was made, giving vent to an ounce or more of darkish pus, mixed with bubbles of air, not, however, having the odour of sulphuretted hydrogen. H. sal. effervesc. c. succ. limon. recent p. r. n. cat. lini.

In the evening, a small artery, which had been divided by the lancet, threw out nearly a pint of blood into the poultice. The bleeding was stopped after some trouble, by compresses of lint and rags dipped in cold water. From this period all the bad symptoms disappeared. The puncture went on for six or seven days, discharging freely healthy pus, whilst the tumour *pari passu* diminished in size. At present the wounds are all but healed; the tumour, especially towards the lower part of the scrotum, has greatly subsided, but in the inguinal canal a considerable degree of consolidation and fulness remain.

Case II.—Joseph Haplin, æt. 42, admitted 12 P. M., Dec. 15th, under the care of Mr. Brodie, with inguinal hernia in the left side. The tumour was tense, oval, about the diameter of an orange, and there was little pain in it on pressure. There was great tenderness, however, of the abdomen; constant vomiting; hiccough; anxious countenance; skin pale and cold; pulse small and weak.

This man had been brought to the hospital twelve months previously, labouring under nearly the same train of symptoms, when the operation was performed by Mr. Jeffreys; but there was found only a cyst, which Mr. Jeffreys supposed to be an encysted hydrocele of the cord. Immediately after the operation, the symptoms, which had been very urgent before it, subsided, and in a short time he left the hospital. About a month ago he presented himself with a rupture on the same side, which was not painful, but inconvenient from its bulk. On pressure, a portion of intestine could be returned, but a certain degree of tumour remained which was soft and separable from the cord, and was apparently omentum. He was ordered, we believe, a truss, and left the house. At five A. M. of the day of his admission, whilst going his rounds as a watchman, he was attacked with griping of the bowels, to which he was subject. He returned home and went to bed, but the pains increased, and at ten A. M. he began to vomit. The tumour was at this time rather larger than usual, and as the day advanced it became painful, and perceptibly increased in size.

The warm bath, taxis, &c., were employed by the house-surgeon, but to no effect. At three A. M. Mr. Brodie arrived, and determined on an immediate operation. A knuckle of intestine much redder than natural was found at the upper part of the sac, and a portion of omentum, not thickened or otherwise diseased, extensively adherent to it below the stricture. The stricture which was at the neck of the sac was divided, and the gut returned, but the adherent omentum was left.

As we are afraid of overstepping our limits, we shall not pursue the details of this cure farther; suffice it to say, that in spite of active purges and venæ section, no motion was obtained from the bowels for nearly twenty-four hours after the operation. There was a good deal of pain and tenderness of the abdomen, but this was completely relieved by a large blister, and he is now doing exceedingly well. The wound is filling up by granulations, as the sutures were cut away on the 16th, when the bowels could not be moved, in order to ascertain whether the gut might not have descended again.

It will be observed, that in these cases the omentum was left unreduced. In both it was extensively adherent, and in neither was it disorganized. We fear that we should far exceed the space allotted us, were we enter at all into what authors have advanced upon the treatment of strangulated omentum. Sir A. Cooper, in his very excellent observations upon Hernia, published in the third volume of his *Lectures*, remarks that if the omentum be very large, if it be in a state of mortification, or if it be "hardened, and have a scirrhous feel," it should be removed wholly, or in part, the divided vessels secured by fine ligatures, and these, one end being cut off, should be left hanging from the wound. If, however, says Sir Astley, omentum alone adheres to the sac, *it may be freely separated and returned.* Mr. Brodie, whose experience cannot have been inconsiderable, comes to a different conclusion. In his Clinical Lecture upon Joseph Haplin's case, he observed, that whenever difficulty obtained in reducing the omentum, either from its being adherent, mortification, or from its being converted into a large fatty mass, the old practice used to be to cut it off, or apply a ligature upon it. With regard to the ligature, authors are almost unanimous in disapproving of it; in fact, as Sir A. Cooper shrewdly remarks, it is renewing with increased severity what the operation was intended to relieve—the stricture on the part.

Mr. Brodie is inclined to think that the excision of the omentum is not so devoid of difficulty and danger as some would seem to infer. If no vessels are tied, the hemorrhage may be very considerable; indeed, Mr. Hey has published two cases in which the patients nearly died of it. If, again, the arteries are tied, the ligatures cut off close, and the omentum re-

turned, we are not sure that bleeding may not take place within the abdomen, from vessels which did not bleed while the omentum lay exposed in the sac, and which therefore were not secured: and, besides, what is to become of the ligatures? Mr. Earle related to Mr. Brodie a case of this kind, in which they were discharged through an abscess which presented itself at or near the umbilicus. The patient recovered; but, nevertheless, an abscess of the belly, which bursts at the umbilicus, cannot be supposed to be always free from danger. If, instead of the ligatures being cut close, one end of each of them be left hanging out at the neck of the hernial sac, the omentum must of course remain drawn down to the abdominal ring; and in what respect is the patient better off than if a portion of it had been left in the sac itself? There is also some danger in this case of inflammation of the cut end of the omentum, and Mr. Brodie mentioned one case in which an abscess formed in the omentum, at this part, immediately within the internal abdominal ring, and the patient died in consequence.

He, however, stated that he did not mean to condemn the excision of the omentum in all cases, but merely to express that it ought not to be done without a very sufficient reason; and that in cases where there is not a very large quantity of omentum in the hernia, but where it is extensively adherent to the surface of the sac, it is safer to leave it where it is found, than to cut off a portion of it, or to dissect through the adhesions. The success of this practice, in the two preceding cases, is certainly in its favour. The patients are left as well off as they were before the strangulation took place; and probably better, inasmuch as it is most likely that the omentum, after the operation, must have contracted adhesions to the neck of the hernial sac, making them less liable to a descent of the intestine.

St. George's Hospital.

From the London Medical Gazette.

Experiments and Observations intended to explain the mode in which Death is produced by Lightning. By B. C. Brodie, F. R. S. *and Surgeon to St. George's Hospital.**

It is not to be supposed that the operation of an electric shock on the animal body will be the same in all cases. It is more probable that it expends its influence sometimes on one part, sometimes on another, and that the effects produced by it will vary accordingly.

A boy was admitted into St. George's hospital under the following circumstances. He had several superficial sores on his abdomen and lower limbs, and he gave the following account of their origin. In the month of July, during a thunder-storm, he was sitting with several other persons under a hovel covered with thatch. A flash of lightning struck the hovel, and set fire to the thatch: the boy, and a woman who was of the party, fell senseless. The woman was instantaneously deprived of life; but the boy recovered his sensibility after the lapse of a few minutes. He had been drawn out of the hovel before he could feel any effects from the burning thatch, and his clothes were uninjured: but shortly afterwards large vesications took place about the pubes and thighs, precisely resembling those which arise from a scald; and they terminated in a similar manner, that is, in producing ulcerations. It is evident that, in this case, the electricity must have acted chiefly on the surface of the body. A corresponding case is recorded in the sixty-sixth volume of the *Philosophical Transactions*. A bullock, which was pyed white and red, was exposed to a violent thunder-storm. A stroke of lightning consumed the white, but left the red hairs. In another volume of the *Philosophical Transactions*, is the history of a man who was instantaneously destroyed by lightning, which made a wound in his neck, and burned the surface of the body, so that the integuments resembled scorched leather.

But a stroke of lightning may also occasion death without injuring (as far as we are capable of perceiving) the organization of any part of the body. Wishing to determine in what manner the electric influence operates on these occasions, I instituted the following experiment. An electric battery of six jars being charged with electricity, the shock was made to pass through a guinea-pig, in the longitudinal direction, from the head to the tail. The animal immediately fell on one side, as if stunned. There were convulsive actions of the muscles of the extremities, which however presently ceased. The function of respiration was not interrupted. In a few minutes sensibility was restored, and the animal recovered.

In this experiment there were no marks of derangement of the vital functions, with the exception of those of the brain: and the animal suffered, as he might be expected to suffer, from concussion of the brain.

An electric battery of nine jars being charged with electricity, the shock was discharged through another guinea-pig, in the direction from the head to the tail. Immediately the animal fell on one side. There were convulsive actions of the muscles of the limbs, but it uttered no sound; and although closely watched, it was not observed that he breathed once after he had received the shock. Three minutes afterwards I opened the chest, and found the heart acting with regularity and vigour, about eighty times in a minute, and circulating dark-coloured venous blood. The peristaltic motion of the intestines also continued. On dissection, no preternatural appearances presented themselves in any part

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* Extracted from Notes of Lectures delivered in the theatre of the Royal College of Surgeons, in the year 1821.

of the body, and the muscles contracted readily when submitted to the influence of a voltaic battery.

In this experiment it was evident that the electric shock did not destroy the irritability of the muscular fibre, nor did it affect the action of the heart. Death took place precisely in the same manner as from a severe injury of the head, and the animal died manifestly from the destruction of the functions of the brain. There can be no doubt that if the lungs had been regularly inflated, the action of the heart would have been maintained; and very probably in this, as in many other instances where the cause of death operates especially on the brain, by persevering in the process of artificial respiration the animal would have been restored to life.

In a third experiment there were corresponding results, although death was not the immediate consequence of the injury. The animal lay on one side: the heart was distinguished acting through the ribs, and he continued to respire: he was totally insensible, except when roused, and then he gave some imperfect signs of sensibility, like a person suffering from concussion of the brain. There were occasional convulsive actions of the voluntary muscles. In the evening, five hours after the experiment was made, he was still in the same condition, but on the following morning he was found dead and stiff.

It has been stated, on no less an authority than that of Mr. Hunter, that in a person killed by lightning there is an instantaneous and complete destruction of the vital principle in every part of the animal machine: that the muscles are relaxed, and incapable of contraction; that the limbs do not become stiffened as after ordinary death, and that the body immediately begins to undergo the changes which are the result of putrefaction. That lightning never produces such phenomena as these I am not prepared to assert; but in the experiments which I have just described, such an instantaneous extinction of vitality certainly did not take place. It is manifest that the functions of the brain were those on which the electric shock exercised its principal influence, and that the suspension of those functions was the immediate cause of death.

Now let us compare the results of these experiments with those of human beings who have been struck by lightning, and who have afterwards recovered.

One person* (as we are informed) felt an impulse on one side of his head, and his sense of hearing was impaired afterwards. Another person† felt as if stupified, and forced to the ground he knew not how. A third individual‡ is described to have been rendered instantly insensible; the pulse being strong, though irregular. In eight minutes he began to move his shoulders; and in four minutes more he articulated some incoherent words; but an hour and a half elapsed before he had entirely recovered his senses. This patient appears to have been under the care of Dr. Struve, a German physician, who published a treatise on the art of restoring suspended animation. He was bathed in cold water; and then covered over with earth, which was laid upon him six inches in thickness; vinegar was poured down his throat, and the powers of his constitution enabled him to recover, in despite of the doctor's remedies.

It appears to me that the facts which I have been able to collect relating to this subject lead to this conclusion, that the influence of lightning, or of a powerful shock of electricity, in the majority of cases, is expended chiefly in disturbing, or destroying, the functions of the brain: and the treatment necessary to counteract the effects of the injury may be comprised in a few words.

Expose the body to a moderate warmth, so as to prevent the loss of animal heat, to which it is always liable where the functions of the brain are suspended, or impaired: and inflate the lungs by means of a pair of bellows, so as to imitate natural respiration as nearly as possible, whenever the animal breathes with labour or difficulty, or when he has ceased to breathe altogether by his own efforts.

* *Philosophical Transactions*, vol. xxxiv.
† Ibid. ‡ Struve on Suspended Animation.

From the Lancet.

SIMPLE FRACTURE OF THE CRANIUM —*Singular Chronic Disease of the Brain.*

W. M., a boy apparently about 15 years of age, was admitted into the Hospital on the afternoon of the thirteenth of November, having fallen upon the pavement from a considerable height, whilst employed in cleaning a window. He was picked up in a senseless condition, and brought to the Hospital soon afterwards: he vomited once or twice on his way thither.

When admitted his face was pallid, the surface of the body cold, and the heart's action was so feeble that the pulse at the wrist was a mere thread: the pupils were dilated and fixed; in fact all the powers of the body were prostrate. Upon examining the head carefully no wound could be detected; but the scalp was much swollen, apparently from the extravasation of blood: this was more especially the case at and about the junction of the right parietal with the occipital bone, there was also some swelling about the left temporal bone. No fracture or depression of the bone at any part could be found.

The means first employed were those calculated to produce what is called reaction, and consisted in the application of warmth to the surface of the body, and the exhibition of a small quantity of brandy and water, from time to time.

Dec. 1. The boy now lies in a state of partial stupor, from which he is easily roused, and then tosses about in a wild, irregular manner, apparently without being at all conscious: he cried last evening, but has not spoken. The *left* radial pulse is about 74, weak, and somewhat irregular; the right radial pulse is scarcely perceptible; the pupils are dilated, but faintly obedient to the stimulus of light; the bowels have been freely relieved by a turpentine enema exhibited during the night. There is no pain evinced when the right arm is smartly pinched, but the opposite limb has full sensativeness; and, singulur enough, when this is pinched he moves the right arm.

Mr. Travers saw the patient at nine o'clock this morning, and directed the application of leeches to the temples; the enema to be repeated. Five grains of calomel had been given by the dresser.

Dec. 2. Sunday, 3 P. M. There is not much alteration in the symptoms of yesterday; the pupils *dilate* on the admission of light; the left radial pulse is now small and quick; about 100; the dresser informed us that it has varied much during the night, being at one period very rapid and at another time slow.

3. Noon. The boy remains in the same comatose condition; the pulse at the left wrist is small and quick; the right pupil is dilated and the left is contracted, and the latter *dilates* when light is thrown upon the eye. The bowels were relieved at nine o'clock this morning.

At three o'clock this afternoon, Mr. Travers saw the patient, and divided the scalp very freely at the part we have described as swollen on his admission, under the supposition that a slight depression of the bone, which had not yet been perceived, might exist. No fracture or fissure, however, was detected. The boy was roused, and sensible of pain during the operation, but speedily fell into the same state of partial stupor, as before. The cellular membrane of the scalp was found to be loaded with extravasated blood: the subsequent bleeding from the cut was not considerable. It was not deemed proper, by Mr. Travers, to adopt any further means.

4. The lad was much the same at noon, today, as yesterday; but, at about 4 P. M., he became very restless; tossing himself to and fro, as if suffering much pain; the pulse became more feeble, and the countenance anxious. Nothing further was done; Mr. Travers considering it to be a "lost case."

5. Noon. He is now quiet; the pulse is upwards of 120, and feeble; one pupil is contracted and the other dilated. No further means have been employed.

6. Noon. Evidently in a dying state. He expired in the evening.

Examination of the head.—This was conducted by Mr. Mackmurdo: upon denuding and examining the skull carefully, a fissure was found, commencing at the coronal suture on the left side at the point where it is crossed by the anterior meningeal artery, and passing downwards and along the os frontis, to the right external angular process. In addition to this was a second separation of bone; the coronal suture from the point above mentioned, at which the first fissure commenced, was asunder to within a short distance of the squamous portion of the temporal bone; and here the fracture, leaving the course of the suture, took an oblique direction backwards, for a short distance.

Tracing the inside of the cranium with the finger, a slight irregularity of bone was felt at the upper part of the os frontis: upon the dura mater, corresponding to this part of the bone, was a small clot of blood, and this was the only morbid appearance observed on this membrane. When the dura mater was detached, then the mischief which had ensued became apparent; there was very extensive extravasation of black blood upon the brain, at the upper part and side of the middle lobe of the right hemisphere. Thus far, of the result of injury; but continuing the dissection, a singular chronic disease of the brain was discovered: on separating the hemispheres, in lieu of the corpus callosum was seen an opaque whitish cyst, which readily burst and discharged a considerable portion of serous fluid. This cyst was placed at the under part of the left hemisphere, immediately above the lateral ventricle; in fact, the lower part of the cyst was partially the covering or roof of the lateral ventricle. It was nearly of the size of a pigeon's egg, smooth, polished, and vascular on its inner surface. The left ventricle was greatly distended, containing several ounces of serum; there was no appearance of the corpus callosum, or of the fornix; the floor of the ventricle being covered by a thin membrane (*the velum interpositum?*) The brain was now removed and put in spirit for the purpose of hardening it, and thus allowing of a more minute examination, when the right ventricle was found equally distended with the left, and it was now also distinctly ascertained that there were no relics of the corpus callosum. A slight portion of the fornix was perceptible on the right side, and also its anterior pillars.

The upper part of the spinal marrow, we omitted to say, was examined, but nothing morbid was detected; no other part of the body was inspected. We find upon inquiry of the boy's parents, that he was a lad of weak mental powers, retaining his childish habits and pursuits to an advanced period. He had of late, however, filled a situation of trust, being accustomed, as his mother states, to take care of sums of money, which he did with accuracy and fidelity. She remarked also, that he was frequently in the habit of laying his head down, even when he sat at table, but never complained of pain. He was a patient in Guy's Hospital more than eighteen months ago, on account of injury to the neck from a blow, and he felt for a considerable time afterwards stiffness about the part.

From the Medico-Chirurgical Review.

DISEASES OF THE ENCEPHALON.

[M. Raikem. Hôpital de Voltera.]

The organ of intellect—the seat of the soul—the principal centre of the nervous system—the source of sensation, reflection, and volition—is surely a part of our corporeal fabric, the diseases of which must excite the highest interest in the mind of the medical practitioner. Medical *politics* may engross attention, for a short time, but the *practice* of our profession will prove the topic of most permanent interest in the long run. We do not, therefore, deem it necessary to make any apology for entering on the analysis of a long and important train of observations on diseases of the encephalon, chiefly drawn from the clinical wards of the Hôpital St. Antoine, while the author was an élève interne of that institution, matured, however, by subsequent reflection and hospital practice. The first part of this Memoir, and not the least valuable, is a minute detail of 27 cases, with the appearances on dissection; which cases form, of course, the basis of the pathological, diagnostic, and therapeutic deductions. We can only select from these cases a few of the more interesting specimens, and then proceed to an analysis of particular symptoms.

Case 1.—A widow woman, aged 44, was received into the Hôpital St. Antoine, on the 18th October. At the beginning of the month, she became affected with erysipelas of the left leg, to which some empyrical wash was applied, and the erysipelas disappeared in three or four days. But now she was seized with fever, dyspnœa, sanguineous expectoration, and pains in both sides of the chest, which symptoms had continued six days, when she arrived in the hospital. She had then intense headach—flushed face—loaded tongue—thirst—pain and tenderness of the abdomen—diarrhœa—quick breathing, thoracic oppression, and frequent cough, with expectoration, containing vermillion blood. The chest sounded well posteriorly; but she could ill bear percussion on the left side and in front. Venesection to 10 ounces—blister to the original seat of the erysipelas—diluents. 7th day. Expectoration easier, and the symptoms mitigated; but, towards mid-day, a strong exacerbation, which gained its acmé about four o'clock, when venesection was repeated to 16 ounces, the blood issuing from the vein with astonishing impetuosity. 8th day. Somewhat better. 9th day. Complained of fixed pain under the ensiform cartilage, increased by coughing and by pressure. Numerous leeches. At mid-day, a violent exacerbation. In the night, the *right* side of the body became paralysed, as to motility, but not as to sensibility—no distortion of the mouth—partial power of speech—breathing deep—cessation of the cough—pulse hard and frequent. Phlebotomy to 20 ounces. In the evening, there was some stertor—constipation—involuntary discharge of urine—difficult deglutition—pupils contracted. There is no report till the 12th day, when the organs of sense were somewhat more susceptible of impressions. She was thus bled again; but in the evening she was found comatose, and died that night.

Dissection.—The sinuses and veins of the dura mater were nearly empty of blood, as were the cerabral veins generally—no extravasation at the base of the skull—*capillaries* of the pia mater injected. In the left hemisphere, when carefully sliced, were found several portions of brain, distinctly circumscribed, which were softened, discoloured, and in some places, almost diffluent. In the centres of some of these portions was found a matter resembling pus, or honey. In the left ventricle was some serous effusion, and the parietes of this cavity were strongly injected. There was no other phenomenon of importance in the brain, except that the petrous portions of the temporal bone, on both sides, were found of a vivid red colour, and perforated by numerous little holes, so as to resemble the spongy part of the long bones.

In the chest, there was some marks of inflammation—some portions of lung hepatized or gorged—the mucous membrane of the bronchia of a vivid red colour, and the ultimate ramifications filled with a bloody fluid. There was nothing particular in the abdominal viscera.

Case 2.—A young girl of 11 or 12 years of age, was received into the hospital, in the beginning of September, affected with muco-enteric fever, which, in a few days, put on a bad character, presenting the phenomena of delirium, loquacity, involuntary dejections, irregular breathing, small and unequal pulse, &c. Camphor, stimulants, blisters, &c. were employed. (This was in 1809.) About the 21st day, somnolency, passing into coma, took place, with dilatation of the pupils, paralysis of the right side, abolition of speech, involuntary stools, &c. During the whole of October, the patient continued in the following condition. She could see and hear, but appeared to receive few impressions through the medium of the other senses. She had no intellectual aberration, and manifested her wants and wishes by signs, being unable to articulate. She was disposed to somnolency, but had no coma. The pupil of the right eye was much more dilated than that of the left. There was some slight motility in the members of the right side—skin arid—pulse tumultuous and feeble—stools involuntary—rapid emaciation. This wretched state of existence was prolonged till the 6th of November.

Dissection.—In the anterior and superior part of the left hemisphere of the brain was found a cyst, containing several ounces of sanious and purulent fluid. This cyst was from twenty to twenty-four lines in diameter, and its parietes were composed of two distinct sheets or lamina, a line in thickness, the inner one resembling a false membrane, and the outer having the appearance of a serous tissue. The surrounding cerebral substance was softened, and reduced to a pultaceous consist-

ence. There were three or four ounces of serous fluid in that ventricle. The opposite hemisphere was sound. There was no disease in the thoracic or abdominal viscera.

Case 3.—A female, aged 45 years, the mother of several children, had laboured, for 14 months, under excruciating pain of the whole head, exasperated, however, at irregular periods of the day and night. Various remedies had been employed, without the least effect. When admitted into the hospital, she was of a pale and yellowish complexion—all the senses undisturbed—disposition melancholy and morose—digestive organs deranged—respiration free—pulse weak—no febrile symptoms. She had some slight convulsive movements, from time to time, in her upper and lower extremities, with momentary loss of sense. She wasted but lingered thirteen months in the hospital, still suffering from this dreadful cephalalgia.

Dissection.—Each lateral ventricle contained two or three ounces of limpid serum. From the lateral part, on the right side of the medulla oblongata, arose a vascular kind of tumour, which spread up along the outside of the cerebellum, to which it adhered. In the centre of the right lobe of the cerebellum was a small cyst, filled with limpid serum, and having parietes composed of a thin, transparent membrane. The gall-bladder was entirely filled with calculi, and did not contain one drop of bile. There was no other disease in the body.

Twenty-four other cases are related, all showing organic diseases of various kinds in the brain; but our limits will not permit us to analyse them. We shall, therefore, proceed to the second part of the memoir, containing some important diagnostic observations.

Every practitioner is aware of the difficulty of ascertaining, not only the different kinds of organic disease within the cranium, but whether there be any organic disease at all. We cannot examine the brain by auscultation, as we can the viscera of the chest—nor by pressure, as we can the abdominal viscera. A solid wall of bone is placed between us and the seat of disease or disorder, and the external phenomena by which we are to be guided in our diagnosis, are exceedingly difficult to appreciate and estimate according to their real value. Although experience will not permit us to go so far as Hippocrates, who says—"*Medicus sufficiens ad morbum cognoscendum sufficit etiam ad curandum;*" yet it must be allowed by all, that it is of great use to ascertain the nature of a disease, even when that knowledge convinces us that the disease is entirely beyond the reach of art. What confidence can be placed in medicine or in men, when we every day see the most fatal organic diseases pronounced as functional disorders, and their cure undertaken with the most sanguine expectations on the part of both patient and practitioner? While writing these very lines a gentleman presented himself, who was said to be labouring under *liver complaint* by one eminent physician—asthma by another—angina pectoris by a third—dyspepsia by a fourth—and hypochondriasis by several! He had carefully preserved all his prescriptions—and they would nearly make a quarto volume of curious specimens of poly-pharmacy, as our Gallic neighbours would call them. On stripping the chest, the heart was seen pulsating on the right side, and no respiratory sound could be heard in any part of the left side, except very high up towards the axilla, and at the upper part of the back, near the spine. What it was that filled up all the lower portion of the left side, we could not tell. It did not appear to be a fluid. But this we could aver, that the disease was neither hepatitis, asthma, angina pectoris, dyspepsia, nor hypochondriasis—nor did we advise the patient to swallow prescriptions for any of these complaints. It was nothing more than common honesty to tell this unfortunate man to go home—keep himself quiet—live abstemiously—attend to his bowels—and trust to God, since active remedies would be more likely to do harm than good. It is not likely, indeed, that he will follow our advice, for he will find many who, without taking the trouble to do more than listen to the catalogue of his symptoms, will be very ready to add a few more pages to the quarto volume of prescriptions. In this conduct we acknowledge that we did not act with worldly wisdom—for, contrary to the old maxim—honesty is *not always* the best policy—at least in these days.

But to return to the brain. We are not quite so certain as Dr. Raikem appears to be, that "*le flambeau de l'anatomie pathologique repand chaque jour la plus brillante et la plus féconde lumière sur toutes les branches de la medecine.*" The torch of the sepulchre (or, in other words, of morbid anatomy) throws every day a light on our *errors* of diagnosis—and, every day, in our opinion, reduces what have been considered as certainties, to *uncertainties!* Is this a disadvantage? No. It is better to be aware of our ignorance—than to be ignorant and think ourselves possessed of knowledge.

Cephalalgia.—This is one of the most common precursory or concomitant symptoms of cephalitis—or, if you will, *softening* of the brain. But in three of the cases detailed by our author, there was no headach, although, in one instance, the anterior lobe of one hemisphere was a complete mass of suppuration—in another, there was a cavity in one of the lobes, with great surrounding softening—and, in a third, there were numerous unequivocal marks of intense phlogosis in various parts of the brain and its membranes. Neither is this headach, when it does exist, always referred to the side of the brain where the inflammation is seated. Saxonia saw a woman, who suffered from a dreadful hemicrania of the *right* side, for a long time. When she was examined after death, there was found an abscess in the *left* hemisphere of the brain. Valsalva, Morgagni, and hundreds of others, report similar observations. Our author is unable to account for these anomalies in respect to cephalalgia.

Delirium.—Is this phenomenon sometimes

independent of arachnitis—and produced by inflammation of the cerebral substance itself? Our author answers in the affirmative, and states some cases and dissections, where there was violent *delirium*, but where, on examination, the brain was found inflamed and softened—the membranes unaffected. On the other hand, there are many cases on record where there was unequivocal inflammation of the arachnoid or pia mater, unaccompanied by delirium. Many cases are cited by our author from Morgagni and modern pathologists in support of this last position. These are exceptions to general rules, which it is proper to bear in mind, even in a therapeutical point of view—since we see that the absence of cephalalgia and delirium is no proof of the absence of inflammation in the brain or its envelopes.

Paralysis in the side opposite to that of the Cerebral Lesion.—Paralysis, and other cerebral symptoms which usually accompany inflammation or softening of the encephalon, do not always come on slowly and by degrees; but occasionally strike the patient as suddenly and violently as an apoplexy. Of this several instances are related by the author himself. Paralysis, however, in his experience, is not so frequent an attendant on encephalitis as it is generally represented to be. Of this exception, instances are given from Burserius and many modern authors, as well as from his own practice. But the wonder is, that, in numerous cases of suppuration in the brain, where cysts full of matter are found in the hemispheres, and, consequently, where there must have been inflammation preceding suppuration and softening of the brain, we shall yet find no symptom of paralysis—no disturbance of the intellectual functions. Speaking generally, however, it is when chronic inflammation has worked these changes in the encephalon, that the symptoms are obscure, or even pass unobserved. It is the same with all other organs in the body. They may be *slowly* disorganized with few of the phenomena presented by acute diseases of the same parts.

Rigidity or Contraction of the Paralysed Members.—More than twenty years ago M. Recamier declared, in his clinical lectures, that this phenomenon depended on softening or inflammation of the encephalon. It generally does so; but this, like all other morbid phenomena, is not constant or without exceptions.

Case.—A woman, aged about 50 years, presenting considerable embonpoint, with large head, short neck, and subject, for some time previously, to giddiness, fell suddenly down, deprived of sense and motion, and breathing stertorously. In this state she was carried to the Hôpital St. Antoine, in September. Her face was red and purple—eyes fixed—pupils contracted and immoveable—abolition of all motion of the *left* side, but sensation appeared to be preserved over the whole surface of the body. The left arm was paralysed, but, at the same time, *rigid*. The breathing was still stertorous, the pulse hard, full, and strong—skin burning and dry. Blood was taken from the jugular vein to the extent of 16 or 20 ounces, and 16 leeches were applied to the neck. Lavements, &c. &c. She lingered out till the sixth day from the attack, and then expired.

Dissection.—The vessels of the pia mater were gorged with blood. The surface of the *right* hemisphere was bulged out, and its convolutions flattened by pressure against the internal surface of the skull. In this hemisphere was found a clot of blood to the amount of two or three ounces, part of which had made its way into the ventricle of that side. The portion of brain surrounding the clot was reddened, softened, pultaceous, and lacerated in several places. The other lateral ventricle contained an ounce or two of sanguinolent serum, and there was some water at the base of the skull, and in the spinal canal. The mucous membrane of the stomach was intensely red.

The above and other cases stated by our author prove that *rigidity* of the paralytic members may sometimes be seen in apoplexy—and that this rigidity is far from being constant in encephalitis, or in softening of the brain.

State of the Pupils.—According to this author's observations the pupils, during the first period of hydrocephalus acutus, (consisting of inflammation of the membranes and sometimes of the brain itself,) are in a state of oscillation from dilatation to contraction, in consequence of inordinate sensibility; but when effusion has once taken place, the permanent dilatation and insensibility of the pupils may be generally observed. But it must be confessed, that there is the greatest uncertainty in this diagnostic symptom, and that no great dependence can be placed in the appearance of the pupils.

We must refer our readers to the third number of our cotemporary, the Repertoire, for further particulars of this lengthy investigation of M. Raikem. We have endeavoured to pick out from it those facts and observations which appeared to us most interesting in a practical point of view. The various diseased conditions of the brain and its membranes are often so obscure, and are so frequently unaccompanied by regular and appropriate symptoms, that we almost despair of their being reduced to any satisfactory system of pathology in the present state of our knowledge.

From the Lancet.

ELECTRIC ORGANS OF FISHES.

The following account of the electric organs is taken from Dr. How's Translation of the first volume of Rudolphi's Physiology. Although we are sorry to find that the translation is not altogether free from inaccuracies, still it contains a mass of information interesting to all classes of medical men, and we sincerely hope the translator, ere long, will favour us with the continuation of the work:—

"The *electric organs*, or, as they were formerly denominated, the *corpora falcata*, of the torpedo marmorata and ocellata, are very easily known. On each side, near the skull and gill, there is placed a body, which consists of many hundred prisms of from three to six sides, which stand perpendicularly to, and close on, each other, extended from the skin below to the skin above, and bound firmly to it by cellular membrane, which are as so many voltaic columns. If we examine these in a specimen which is fresh, or preserved in spirit of wine, we observe each prism to consist of a tube surrounded with nerves and vessels, with their membranous walls, in which are found a great number (according to Hunter, 150) of thin plates or partitions difficult to separate, and arranged in horizontal layers on one another, with an albuminous fluid contained between each. When the columns are, on the contrary, quickly dried, the plates are not only seen more distinctly, but may be easily separated, and do not appear to form any tubes, while the surrounding cellular membrane alone preserves this appearance. Todd considers the tubes as quite cylindrical, and that they have the appearance of corners merely as the consequence of the appending cellular membrane; but this is evidently wrong. Girardi describes them also as six-cornered generally, and now and then five and four-cornered. Three large nerves are given off on both sides to their organs, dividing equally into parts, so that they penetrate the tubes horizontally, and are entwined around them in such a manner that each plate seems to receive its nerves as its vessels. In many of the prisms, connexions between their nerves may also be pointed out. All the three principal branches, before they reach the electric organs, give off smaller branches to the gills; the first of these is certainly to be considered as the fifth pair of nerves (*par quintum s. divisum,*) the second and third as the tenth (*par vagum,*) as is done by Cuvier (Leçons, T. V., p. 268,) except that he considers three branches as given off from the vagus to the organ, without taking observation of their earlier connexion.

If the electric organs of the torpedo cannot be denied to be batteries of voltaic columns, then those of the gymnotus electricus, on the contrary, must be considered as a very numerously compounded trough. On each side there is a larger superior organ, and an inferior smaller one. Each commences immediately behind the head, under the large muscles of the back, where it is obtusely round, and runs along towards the point of the tail; towards the spine it is plane, or somewhat concave; externally it is convex; superiorly it runs into a sharp border; inferiorly it diminishes, and is strongest in the middle. It consists of horizontal membranes, situated about the third part of a line from each other, and extending along the whole length; between these we find perpendicular laminæ arranged from within outwards, bound firmly to them, and dividing them into right angles: they are very closely arranged on one another, and contain water in the small cavities which are formed by this arrangement of the laminæ. Under this larger organ there lies a smaller one exactly similar to it, which is still more minutely divided, and which, where it borders on the other, is only separated from it by a horizontal wall, while at the sides of the fish, on the contrary, the organs diverge in order to afford space for the interposition of muscles. In the specimen which I have before me, the intercostals on each side, 224 in number, pass off at the inside of the organs; they are then immediately divided, and pass over all parts of them, so that their branches spread from before posteriorly, and inosculate with each other; but the fine ends of the intercostal nerves, under the smaller organ, pass to the skin, and here they form fine and uninterrupted net-works, which cover the skin through its whole extent. A large twig, which is given off from the third branch of the fifth pair, and is increased by a smaller one from the par vagum, passes posteriorly near to, and parallel with, the spine, from before quite down to the tail, passing directly over the intercostals (crossing them at right angles,) and no where uniting with them, but distributing its twigs to the muscles of the back. This is the nerve which Hunter considered as the par vagum, and which Fahlberg improperly denominated the par electricum.

"The organs of the torpedo and gymnotus electricus agree in this, that they exhibit tubes or foramina, with which their laminæ form right angles, and the intermediate spaces of which are filled with a fluid. They differ, however, in respect to the breadth and length of their organs, which, in the gymnotus electricus, are likewise firmly bound together at every part, while the prisms of the torpedo, and their transverse laminæ, have a loose connexion; the supply of nerves are very great in both, but in the torpedo it is proportionably greater."

AIR-BLADDER IN FISHES.

The communication of the air-bladder in certain fishes with the internal ear, tends to confirm, instead of contradicting, the character assigned to that organ as an imitation or rudiment of the lungs of the superior animals. Where the eustachian tube exists, it forms in the same manner a communication between the cavity of the ear and the respiratory organs. On the other hand, the lungs in the proteus form merely two membranous sacs without any cells, whilst in certain serpents the structure is still further simplified by the exclusive development of one lung, the other remaining in a rudimentary state. In the proteus, again, the closed state of the air-bladder in other fishes is very nearly imitated, the bronchi into which the trachea divides before it enters the lungs being so small that the action of alcohol is sufficient to render them totally impervious to the passage of air.—(*Weber, de Aure et Auditu, p.* 89.)

From the London Medical Repository.

OBSERVATIONS ON IDIOPATHIC PHLEGMONOUS ERYSIPELAS, WITH CASES. By Evan Daniel, Esq. Surgeon.

I have taken the following cases from among several others which came under my care, during last spring and summer, when phlegmonous erysipelas was unusually prevalent, as they tend to show the utility of abstracting blood locally; against which practice, most writers on this disease appear to be very much prejudiced; this is the more unaccountable, as the plan of locally abstracting blood has proved so very successful, compared with the old, and, I may almost say, nugatory practice. Whether we make many small incisions according to Mr. Copland Hutchinson's method, or one large incision according to Mr. Lawrence's, I maintain that the relief which the patient receives, depends more upon the quantity of blood abstracted, than it does upon any other circumstance connected with the incisions. But, as this inflicts considerable injury and pain on the patient, I prefer the early application of a number of leeches, proportionate to the extent of the inflamed surface, to the violence of the disease, and to the temperament of the patient; and I find this practice equally as successful as if incisions were made. The latter plan may answer very well in hospitals, and in other public institutions, where the patient must submit to the *dictum* of the surgeon; and so it would in private practice could we persuade our patients to submit to it; but the dread of the knife is so prevalent that few can be induced to do so; especially if there be a chance of relieving them by any milder means. Owing to these circumstances I was led to employ leeches in the following cases, as well as in many others, with equal advantage.

Case 1.—A widow lady, turned of 40, of a spare habit, and whose business confined her much in the house, requested my assistance on the 17th of April. The lower two-thirds of one of her legs, to the ankle joint, was affected by phlegmonous erysipelas. She was not aware of having injured it any way. Her attention was called to the affected part three days before, from a sensation of burning heat and shooting pain, and, on examining the leg, she found a red patch, a little larger than a crown piece, very tender to the touch, and slightly elevated; at night she applied a bread and milk poultice to it; next morning the inflammation was more than twice the extent; she was recommended to apply goulard water to it, and to take Epsom salt. Under this treatment she got much worse; and was in the above state when I first saw her. She had not enjoyed her usual state of health for the last fortnight or three weeks; she was depressed in spirits, with a feeling of great languor, loss of appetite, a nauseously bitter taste in her mouth, more particularly in the morning, which ceased on her leg becoming painful; tongue rather moist, of a light brown colour in the middle; pulse 100, hard and small. Ordered twelve leeches to be applied to the inflamed surface, to be followed by a warm bread and water poultice to encourage the bleeding; and to take the following medicines:—℞. Hydr. submur. gr. iij.; antim. tartarizati gr. ½; ext. coloc. comp. gr. v. M. ft. pil. ij. horâ somni sumendæ et haust. seq. primo mane.—℞. Magn. sulphat ℥iij.; infus. sennæ ℥x. syr. zingib. ℥j. M. ft. haust. To confine herself to a farinaceous diet and boiled milk, and to avoid wine, spirits, and malt liquors.

18th. The pain was considerably relieved after the application of the leeches; but this morning it is increased; the inflammation has spread as far the knee; the bowels have not acted; all other symptoms the same. Repet. hirudines et medicamenta; when the leeches shall have done bleeding, she is to apply the following lotion:—℞. Spir. rectif.; acet. distilat. ā ℥iij.; aq. puræ ℥vi. M. ft. lotio.

19th. No pain when the leg is kept in a horizontal position; the inflammation less; thickening of the cellular membrane in several places, which can be felt by drawing the fingers over the inflamed part; very tender. Leeches to be applied to the elevated parts, and she is to continue the medicine; the antim. tart. to be increased from one-third, to one-half of a grain, and an addition of spiritus camphoræ ℥j. to be made to the lotion.

20th. In every respect better; pulse not so quick; tongue less furred; has slept well in the night. Ordered the following draught, to be taken three times a day:—℞. Quinine sulphat. gr. iij.; acid. sulph. d. gtt. x.; infus rosar. ℥x.; syr. simplicis ℥j. M. ft. haustus.

These draughts were continued on alternate days with the pills and aperient draught, and a more liberal diet allowed, with animal food once a day. From this time, she got gradually, but progressively better. The lotion was omitted on the 24th; on the 29th she was able to resume the management of her business, and she left off taking medicine on the 4th of May.

Case 2.—A married woman, about thirty years of age, of a plethoric habit, with a child of three months old at the breast, in consequence of having got wet about the 14th of June, was seized with pain in her limbs, weariness, and a loss of appetite. On the 21st, her left leg became very painful; the pain increased until I saw her on the 25th. Her left leg and thigh are now very much swollen, and interspersed with several elevated spots, of a bright red colour, highly tender to the touch, so much so that she cannot bear the pressure of the bed-clothes; pulse full, and variable, from 95 to 105, with intermission every eight or ten seconds, succeeded by two or three quick pulsations; tongue coated with yellow mucus; bowels costive. Venæsectio ad ℥xvij: to apply twenty-four leeches to the leg and thigh, and to take the following mixture:—℞. Magn. sulph. ℥j.; mist. camph. ℥vss.; liq. antim. tart. ℥iij. M. capiat cochl. ij. ampl. 3tiâ quâque horâ.

The leg and thigh to be covered by a bread and water poultice after the leeches fall off.

26th, nine o'clock A. M. Symptoms much the same, no sleep in the night, though she was freer from pain for two or three hours after the application of the leeches; blood cupped and buffed; the bowels have not acted; pulse full. Venæsectio ad ℥x, when she became faint; repeat the leeches, and take the following medicines:—℞. Ext. colocynth. comp. gr. vj.; hydr. submur. gr. iv. M. ft. pil. ij. statim sumend. et haust. seq. post horam unam.—℞. Magn. sulph. ʒiij.; infus sennæ ℥x.; syr. zingib. ʒj. M. ft. haust.

Six o'clock, P. M. Better; bowels have acted very freely; pulse ninety-five, soft and without intermission; the blood drawn this morning rather more buffy and cupped; she expresses herself as having derived considerable relief from the leeches. To continue the mixture, and to apply pieces of lint, wetted in the following lotion, to the inflamed surface.—℞. Spt. rectific.; acet. distillat a ℥viij.; aq. puræ ℥x. M. ft. lotio.

27th. Nine, A. M. Much the same as last evening, with the exception of a slight smarting or scalding pain in the inner side of the leg; pulse ninety-seven, soft; bowels open; has had three or four hours sleep in the night. Ordered twenty leeches to be applied to the leg; the mixture and lotion to be continued.

Six, P. M. Better; free from pain; pulse under ninety.

28th. Eleven, A. M. Complains of nausea and faintness; she vomited some tea which she took this morning; very little inflammation; no pain, but a sensation of stiffness in the leg; the cellular membrane thickened in several places; pulse seventy, and easily compressed. Ordered to take a little broth, arrow root, or boiled milk, and to omit the mixture. She is also to take the following mixture:—℞. Decoct. cinchon. ℥vss.; tinct. ejusdem. ℥ss. M. capiat 4 tam partem 6 ta quâque horâ.

29th. Improving; from this time she got rapidly better with only taking the bark mixture on alternate days with the following:—℞. Mag. sulph. ʒiv.; infus. rosæ. ℥vss.; syr. simplicis ʒij. M. capiat 4 tam partem sextâ quâque horâ.

July 10th. Left off taking medicine, being quite well.

Case 3.—A gentleman, between sixty and seventy years of age, of usually regular habits, after partaking of the luxuries of the table more liberally than he was accustomed to do, had, on the 13th of September, an attack of erysipelas on one side of his face. He had had before three or four similar attacks within the last ten years, without, however, their following any regular periods; for he had been affected by it in the spring, middle of summer and autumn. Pulse now eighty-seven, small and hard; tongue has in the middle what writers have designated as having the appearance of raw beef, with a streak of yellowish white fur on each side; thirst. Bowels acting once or twice daily; but there is a deficiency of bile in the evacuations. Ordered to confine himself to broths and light diet; and to apply twelve leeches to the face, and a goulard water poultice afterwards; also to take the following:—℞. Hydr. submur. gr. iij.; pulv. antim. gr. v.; conf. rosar. q. s. ft. pil. ij. hora somni sumendæ.—℞. Magn. sulph. ʒj.; mist. camph. ℥vss.; liq. antim. tart. ʒiv. M. capt. cochl. ampla ij. ter in die.

14th. Symptoms milder; the face not so much swollen; has received great relief from the leeches, which are to be repeated, and after the bites have done bleeding, he is to bathe the face with liquor plumb. acet. dilut., and to apply the same poultice at bed-time; the medicine to be continued. Finding himself so much better he neglected taking his medicine, and he is not so well on the 18th; the face again swollen, and more painful.—℞. Pil. hydr. gr. vij.; antim. tart. gr. ss.; M. ft. pil. ij. horâ somni, omni nocte sumendæ.—℞. Infus. gentian. comp. ℥vss.; sodæ carbon. ʒij.; syr. zingib. ʒij. M. capt. 4tam partem bis in die.

20th. The swelling and redness have subsided, with the exception of one ala nasi; febrile symptoms very much abated; the tongue has lost the appearance above described: alvine secretions of a healthier colour. The pills to be continued, and the opening mixture, on alternate days with the tonic mixture; the lotion to be applied to the face.

23d. Left off taking medicines, being perfectly well.

Remarks.—I have treated many other cases on the same principle as the foregoing, and I have not found in any one instance the least inconvenience or ill consequence to arise from the application of leeches. All my patients have invariably expressed themselves greatly relieved on their first or second application.

As far as I have been able to observe, the following conclusions may be drawn respecting this subject. 1st. Leeches may be employed in phlegmonous erysipelas with very great advantage, and without much risk of their producing those troublesome ulcers, and even gangrene, spoken of by writers, whose doctrine tends materially to frighten the timid, and awe the inexperienced practitioner. 2d. A few leeches are much more likely to produce irritation than a number proportionate to the extent and violence of the disease, and to the degree of plethora of the system of the patient.

It may be asked, on what principle the sulphate of quinine and bitters were given, when the antiphlogistic plan of treatment is advocated? I do not consider that allowing even animal food, (if the patient has an inclination to eat,) at the time that bleeding, both general and local, is pursued, can militate in the least against sound practice, though it may against a too finely spun theory; and, by the same rule, a healthy secretion is sooner restored in the chylopoietic viscera by the employment of mild aperients, alternately with tonics, than by the exclusive use of either.

When leeches cannot be procured, or when their price is an object, I would place great reliance upon incisions as the next best reme-

dy; but I offer this opinion more from what I have seen in the practice of others than in my own.

Having said so much on the subject of leeches, the following fact (very lately told to me) may perhaps not be uninteresting, though accidentally discovered.

A patient, who had been upwards of an hour trying to get leeches to bite without being able to succeed, took a piece of sheep's lights (for a reason she could not explain,) and rubbed the part affected with it, and on afterwards putting the leeches on they immediately took.

From the London Medical and Physical Journal.

OBSERVATIONS ON THE PHENOMENA OF THE CIRCULATION.

By J. H. James, M. D.

There is no one subject in physiology which has at all times attracted so much attention as this; and convinced as I am that it has almost been pursued to satiety, I would not now offer any additional remarks, if I were not persuaded that the explanations given are still very unsatisfactory, and that circumstances of important influence in the consideration of the question have been overlooked.

The limits of this paper will necessarily be brief: nevertheless, it must be my object to review, in as concise a manner as I can, the subject generally; for any partial consideration of detached parts or circumstances can only be productive of error.

The flow of blood through the arteries is first to be considered. These vessels constitute a series of pipes, always full, but only occasionally distended. At each impulse of the heart, they receive an additional quantity, which at the moment urges a portion of that contained in them into the minute vessels, and also causes them to dilate, which their elasticity allows; the impulse having ceased, then elasticity reacts on the contained blood, and expels the remainder of the surplus portion which has been received, so that directly at the systole, and indirectly through the agency of this elasticity, the heart is, in point of fact, every moment of time employed in propelling the blood. A jet is perceived in the large branches at the systole, but in arteries of less size than one-sixth of a line in diameter the stream appears uniform, which may be explained by the velocity of the blood sent by the direct impulse being so much retarded in its progress, that the velocity of the stream, as maintained by the elastic power, is hardly exceeded by it, and scarcely any difference can be perceived in the uniformity of the current: at least, such appears to have been the opinion of Mr. Hunter.

This doctrine has been assailed by many able physiologists, but more particularly by Bichat and Parry, who were, however, probably misled by the result of their experiments; a misfortune which has happened to not a few, and in this instance because they preferred trusting to observations made under unnatural circumstances, rather than to those which are constantly presenting themselves without any experiment at all. They found that, when arteries are exposed, they do not dilate, and therefore they concluded that it is not usual for them to dilate. Were a person, on opening the chest, to conclude that the lungs he saw collapsed were in their natural state, would he draw a fair conclusion? Exposed arteries in the living body remain contracted, for the same reason that they contract if cut, to avert injury.

If the senses are to be trusted, arteries do dilate in the usual state of the body, when not exposed: it is apparent in the pulse of superficial arteries; it is sensible in a finger surrounded by a ring. I have observed it as most evidently proved by the alternate rise and fall of matter collected in a deep ulcer in the groin, over the femoral artery. It is evident in the jet from a divided artery, and in the pulsation of one that is tied.

But I may be allowed to ask, if the elasticity of the arteries in the lateral direction is not employed, wherefore was it given? Are we warranted in believing that it exists without a purpose? and what is that purpose, if not that now assigned?

It is demonstrable that, without this elasticity, there would have been no equable flow of blood in the smaller vessels; but it must have been forced through them by sudden, violent, and probably injurious impulses.

From consideration of the structure of the heart, it is evident that a portion of time must be allowed for its cavities to fill, as well as to empty themselves: that portion of time is considerably the longest, and consequently the blood can only leave it by sudden impulse. This sudden impulse, violent in itself, would be succeeded by a state of quiescence of the blood, (which we can prove does not exist,) but for this provision in the lateral elasticity of the arteries, which, like the main-spring of a watch, receives the force of the heart during its short exertion, and gradually parts with it again; so that the force so derived from the heart is really acting while the viscus itself is filling, and no interval occurs when it is not employed in propelling the blood.

A great deal has been said on a point to which I deem it necessary to advert, namely, whether the blood flows through the arteries in waves. I have above stated that the arguments predominate against its flowing merely in column, (particularly the fact, that on such a supposition there would be no continued stream from a cut artery, which it is well known there is,) but does it flow in waves, as has been repeatedly asserted? I should think not; for the supposition will hardly account for the instantaneous impression felt at each beat of the heart in arteries remote from it.

Between these two theories it is not impossible to find out an intermediate, which may approach to the truth. There can be little doubt that at each impulse of the heart a shock is diffused over the arterial system, which propels the blood in a longitudinal di-

rection; but is it not quite clear that, whenever this is felt, there must also be an impulse on the sides of the tubes? and if so, these sides, being yielding in their nature, would yield or dilate; and if elastic, they would return to their former state, as the power ceases which dilates them. This hypothesis of an instantaneous dilatation of the arterial system, however, differs entirely from that of successive waves flowing along them like ordinary canals, and much more accords with the facts observed.

The elasticity of the arteries lessens, as might be expected, as they become more remote from the direct impulse of the heart.

The arteries, in addition to their elasticity, it is well known possess a contractile power. This cannot be doubted: it only remains to inquire how this power is exerted.

It has been repeatedly asserted by men of high authority, that this power is employed in supporting the circulation. This assertion does not readily admit of being directly disproved; but to the arguments which have been advanced against it, and which are not perhaps very conclusive, I will add the following:—If the hypothesis were true, it follows either that the contractile power must be exerted at the same moment throughout, or irregularly: if the latter, it must put an end to all uniformity in the circulation. If at the same moment throughout, then it must either correspond with the systole of the heart, or not; if it corresponded with the systole, then it would prevent the admission of blood from the heart, and in no way tend to forward it: if not, it would follow, I conceive, that this fresh impulse, most powerful certainly as the contractility increases,—i. e. as the arteries diminish in size,—would generate a new jet of blood through the subsequent channels; which is not the case, and therefore it may be concluded that it does not exist.

What, then, is the use of this contractile power of the arteries? I should answer, to regulate the supply of blood. It opens or shuts these canals more or less, according to the demand made by the extreme vessels, just as the intelligent hand of the engineer opens or closes the valves of pipes which supply the different quarters of a city more or less according to their wants: hence the arteries going to a part are obliterated after it is removed; hence, if a part is increasing with more than ordinary vigour, all the branch pipes leading to it enlarge: they will enlarge on the instant if leading to parts of temporary activity, as the salivary, mammary glands, &c. and will contract with the same speed. They will contract to prevent hemorrhage, or enlarge to supply parts whose regular supply has been interrupted.

Such is the degree to which this contractile power can be exerted, that it can instantaneously close an artery which is divided; and these vessels close upon the last portions of blood in the act of death,—at least, so it appears to me. Dr. Arnott has called this point in question; but, in the first place, I am by no means sure that we are warranted in believing, with him, that the vessels, so called capillaries, do in point of fact exert the powers of capillary tubes, as he states; and in the second, I do not conceive that the flatness of the arteries after death is a conclusive argument, as he infers, against their having emptied themselves. although found in a flat state after death, they may have been cylindrical during the existence of contraction, and subsequently become flat when the contractile power has ceased, and the pressure of superincumbent parts has acted upon them. The capillaries of the lungs do not exhaust the pulmonary artery, which they would do, as well as the systematic capillaries the aorta, if capillary attraction produced that phenomenon. The real cause of the difference would take too long a time here to discuss.

No doubt the contractile force of the arteries is in constant exertion, not only in varying the size of the arteries, as may be required, but as maintaining a degree of resistance which regulates the admission of the blood into them at every systole of the heart, and which mainly contributes to produce many of the qualities of the pulse; as, for instance, its size, hardness, &c. &c., which will result from the combined influence of the force of the heart, and the greater or less resistance of the arteries, which resistance will be uniform as respects their elasticity, variable as regards their contractile power. I cannot, however, think that this resistance places them in the condition of rigid tubes, as has been asserted, or that consequently the circulation can be calculated upon data which might be allowed if this fundamental hypothesis were true.

The blood having quitted the arteries, returns through the capillaries and veins to the heart: we are next to inquire how this is effected.

The force of the heart, though lessened, cannot be considered as by any means expended when the blood has reached the capillaries; and that it will still materially support the circulation, there can be no reason to doubt. Dr. Arnott* states, page 495, that "the heart keeps up a tension or pressure on the arteries of about four pounds per square inch of their surface, and with this force, therefore, is propelling the blood into the capillaries." Now, if it be granted that the amount of arterial pressure is correctly calculated, there are many facts which seem to show that there is some error in the application; more particularly the diminishing momentum of the blood in the smaller arteries, which may, perhaps, be more justly considered as the true measure of the force in them derived from the heart, than that founded on calculations, such as those which arise from the general tension of the arterial system.

If a number of holes of different sizes be

* I cannot allude to Dr. Arnott's work without expressing my belief that it will prove exceedingly useful, and that the medical profession in particular is much indebted to him.

made at the same height in a vessel of water, allowance being made for the friction of the sides of the holes, water will flow through these holes in streams of equal velocity; but if we regard the streams of blood flowing from the amputated surface of a limb, we find that the velocity of the streams diminishes nearly as the size of the arteries, proving, I think, that it is not from an equal degree of tension, or pressure, or force that they flow. Again, while considering this subject, I cannot help observing that the calculations of Dr. Hales, and other investigators, may have been erroneously deduced, inasmuch as they calculate for the whole, from the force which they see belongs to a stream proceeding from one open artery, without taking into consideration that the universal sympathy of the vessels will throw the blood upon that point; and, if so, it cannot be taken as a fair measure of the ordinary force in such an artery. If this opinion is true, it would probably be found that opening other arteries during such experiment would lessen the force of the stream in a greater ratio than, upon Dr. Hale's calculations, it ought to do.

That the propelling power of the heart, however, is strongly exerted in support of the circulation through the capillaries and veins, is pretty evident, notwithstanding Bichat's opinion to the contrary; but that it is not the sole agent may be deduced from the consideration of many facts, and one of these, which is of an anatomical nature, appears to me of considerable weight. The veins of the lower extremities are much stronger than those of the upper, manifestly because they have to support a longer column of blood. Now, if the sole force which propelled this blood was derived through the arteries, might we not expect a proportionate difference in *their* strength also? whereas, between the thickness of the coats of the arteries and veins of the lower extremities little comparative difference can be perceived.

It may be very difficult to measure the precise degree of influence which ought to be assigned to the heart, and what to the capillaries; but the following phenomena, which have been often quoted, all prove that they possess powers.

1st. Circulation in animals who have no hearts.

2d. Circulation in the human fœtus without hearts.

3d. Circulation in the human subject during syncope, &c.

4th. Bleeding after apparent death, and the heart's action has ceased.

5th. The circulation of the porta, spleen, corpora cavernosa, placenta, &c.

6th. The progress of fluids in the lacteals and lymphatics, and in the excretory ducts of the testis and other glands.

To these I may add the following:

In cases of obstruction of the orifice of the aorta, when the aperture has been reduced to the size of a crow-quill, and arterial pulsation has scarcely been perceptible, I have seen veins bleed most freely, not surely from the heart's action.

If a tourniquet be tightly screwed so as to compress every artery of a limb, the veins, when cut, will bleed freely, and be completely emptied.

In ordinary bleeding, blood will not flow from a vein, of course, if none is admitted into a limb; but if there is, the strength with which it flows by no means corresponds, in many cases, with the force of the arterial pulsation.

These facts, however, only prove the power the capillaries have of propelling the blood; they do not prove that the circulation in the veins is influenced by them in common; but they render it extremely probable, and it is very easy to conceive that, if a number of these vessels are every moment discharging their contents into the veins, tubes which are constantly contracting the areas of their diameters as they meet; that such a force will be generated in the larger branches as will materially assist the venous circulation.

It has always been deemed necessary to assign some auxiliary causes, besides the propulsive force of the heart, to explain in a satisfactory way this venous circulation: of these, there are many so manifestly incapable of aiding it, that it is only astonishing that men of high talent should for a moment have deemed them worthy of notice. Such are the increasing size of the veins facilitating the return of blood; which is manifestly erroneous; as the sum of the branches is, on the contrary, much greater than the sum of the trunks;—the greater size of the veins than of the arteries; this would, if any thing, in the upright posture of the body, be a disadvantage rather than otherwise, and can only facilitate the return from the larger half of the body when we are in a horizontal posture. The valves, which may and do prevent a reflux of the blood, but never can aid its advance, except during muscular action, when an influence is created similar to that of the forcing pump: the action of muscles, however, is only occasional, and we cannot admit an occasional cause as productive of a permanent effect. The pulsation of contiguous arteries has also been held by Bichat to be another means; but it is extraordinary that he should not have perceived that this must act equally in each direction, and consequently retard as much as it propels.

Two other hypotheses remain, which deserve very different consideration. I mean the influence of the thorax, or of the heart, in sucking in the blood, particularly the latter.

It strikes me to be an insuperable objection to the former, that if, during respiration, a sucking power were exerted in the columns of blood approaching the heart, it must equally act on those which are quitting it, and consequently it would retard the arterial circulation as much as it assisted the venous. It does not, however, demand much argument to refute an hypothesis which is now little entertained, and which, at all events, fails to explain the phenomena of the circulation in

whole classes of animals, whose blood is ventilated without any motions of a thorax.

The hypothesis which attributes to the heart a power of suction as well as propulsion, has of late, I need not say, much engaged the attention of very able physiologists, who have supported or opposed it with much ability and perseverance. Some of the arguments stated in Dr. Arnott's work against it appear to me very conclusive, particularly that derived from the well known fact that blood flows with great force from the vein below a ligature, which must of course intercept any suction power of the heart.

Dr. Arnott's experiment, page 510, with respect to the impossibility of drawing up a column of fluid through a tube immersed in a bucket of water, appears to me to fail in an important particular,—namely, that the fluids in the veins may be supposed to be maintained in equilibrio by that in the arteries; whereas, in the experiment stated by Dr. Arnott, there is no counterpoise provided for, and the cases, consequently, have not a just and perfect analogy.

There is, however, an important fact connected with the structure of the heart, which I think goes far to prove the impossibility of the theory,—namely, the extreme disparity in the power of the right and left sides. Now, if the return of blood through the veins were effected by the suction of the heart, we might not unfairly conclude that an equal degree of force would be exerted in drawing as in propelling it, as the approaching column is, in point of fact, larger than that which is quitting the heart; and, upon this supposition, it would also follow that, if equal work is to be done, equal strength would appear in the structure, as in truth is the case when equal work is done by both sides of the heart, as is evinced by the comparative strength of the right ventricle during the fœtal state, and when the septum remains open from malformation. But what is the usual relative strength of the two sides? Instead of being at all equal, it is just that which we may well suppose would correspond with the relative efforts on either side to propel the blood through the pulmonic arteries and general system respectively.

There is another consideration which may be strongly urged; namely, that on the hypothesis of the heart exerting a suction power, not the least interval of relaxation would be allowed for its fibres, which must commence the process of dilatation the moment they had completed that of contraction; a phenomenon so entirely opposed to all we know of the principles of muscular power and mode of action, that it would go far to make me doubt an hypothesis which must assume a fact so irreconcilable.

To conclude: if it be urged that my arguments do not rest on the basis of experiment, I must beg leave to say that it by no means follows that they are on that account less entitled to credit, if they are grounded upon accurate observation of natural phenomena. Experiments, after all, are but an auxiliary, though a valuable auxiliary, in our pursuit of truth, and they serve only to supply that information which our observations cannot deduce from natural phenomena; and, if the conclusions drawn from them are evidently opposed to those which do arise from the consideration of natural phenomena, we have the strongest grounds for doubting their accuracy.

In the sciences, experiments have led to error as well as to true knowledge, man not having always rightly interpreted them; which has been repeatedly shown, but in no way more remarkably than in this, that learned men have drawn different—often opposite, deductions from the same experiments.

That the knowledge resulting from the observation of natural phenomena is quite as much entitled to belief as that from experimental research, is proved by nothing more strongly than the fact that a large proportion of physical truths rest upon no other foundation, especially in the department of astronomy and optics, where experiments are, indeed, almost wholly out of the question. That the same reasoning will apply to the science of the animal economy, I feel fully convinced; and, as a strong example of the truth of this position, I may express my persuasion that attentive observation alone of all the phenomena which present themselves relative to the flow of blood during hemorrhage or otherwise, aided by the careful consideration of the structure of the heart and vessels, might have enabled Harvey to establish precisely the same conclusions respecting the course of the circulation as those which he arrived at by experiment; and possibly he would have done so, had he commenced the inquiry free from the prejudices which at that time encumbered the investigation.

From the Medico-Chirurgical Review.

HOSPITAL REPORT FROM THE VAL DE GRACE. By M. Broussais.

[*For November, December, January, February, and March*, 1826-7.]

M. Broussais's doctrine has lately been assailed, through the medium of the practice which it inculcates. It has been said that the success of the Professor in the Val de Grace has not been equal to that of other physicians entertaining different views from the founder of the new doctrine. It is hardly fair to judge of a doctrine or practice by comparative success in different hospitals—or even in the same hospital at different times, or under different physicians. A man may have a run of bad or good luck in the reception of patients, as well as in throwing dice or playing at cards—and this may give a very pleasing or gloomy cast to the numerical results at the end of the quarter or half-year. M. Broussais has caused his aide-major (M. Cassimir Broussais) to present a semestral report from the Val de Grace, appealing, for the authenticity and truth of the report, to the records of the institution, and the evidence of those who walked the hospi-

tal at the time. Nothing can be more unexceptionable than this plan, with the reservations above alluded to—and we shall now proceed to give an analysis of this report.

It is asserted by the reporter, that when M. Broussais takes his turn of duty in the Val de Grace, he desires that the worst cases may be sent to his wards. This is magnanimous—more so than wise, perhaps. In the five months above specified, there were entered 438 patients, of whom 20 died, or about one in twenty-two. This certainly is not a very great mortality, considering that an epidemic raged during part of the time, before which, the mortality was only one in thirty-five—and that 86 cases remained in hospital from the preceding semestre. M. Cassimir asserts (and there can be no reason to disbelieve him) that many were sent to the Val de Grace in the above period, merely to die. This happens in all hospitals, and must ever prevent a fair estimate of medical treatment. We do not deem it necessary to give the whole table of maladies. Suffice it to say, that there were three aneurisms of the heart—76 cases of acute bronchitis—8 of colitis—7 of duodenitis—3 of encephalitis—60 of acute gastro-enteritis—15 of hypertrophy of the heart—35 of intermittent irritation (ague)—4 of laryngitis—72 of acute pleuritis—29 of other acute inflammations of the thorax.

1. *Pleuritis.* Of the 79 cases of acute pleuritis, only one proved fatal, and that from purulent effusion into the cavities of the pleura and pericardium. This inflammation had commenced five days before the patient's entrance into hospital. In all these cases of pleuritis, the disease was combated by the application of leeches to the pained part. In 29 cases venesection preceded leeching. In general, a single application of 15, 20, or 30 leeches was sufficient. In three cases only was it necessary to have recourse a third time to leeching. Emollient cataplasms always succeeded the leeches, and diluent mucilaginous drink was plentifully given. In six cases, it was necessary to blister after leeching, and in four of these, the measure was successful. It was remarkable that, in most of these cases, the pulse fell immediately the blisters had risen. In two cases, however, they were applied too soon, and the rale muqueux and fever obliged M. Broussais to have recourse to more leeches. In the great majority of cases, bronchitis preceded the pleurisy, which induced M. Broussais to suppose that the inflammation of the mucous membrane, having arrived at the ultimate ramifications of the bronchia, passed on to the serous membrane, and then produced the corresponding phenomena. When the bronchitis persisted, which was generally the case, leeches were applied under the clavicles, at the top of the sternum, and wherever the rale muqueux could be heard.

The thoracic inflammations were far from being uncomplicated. In 20 cases, at least, there was considerable gastric irritation, which yielded, however, to leeching the epigastrium. In two cases there was evident duodenitis—and, in three instances, the inflammation spread to the other intestines, producing diarrhœa—and to the brain, giving rise to delirium. These cases are detailed at length, but we pass them over.

There were very few instances of relapse in these pleuritic cases. The medium period of residence in hospital was 23 days. It is remarked, however, that M. Broussais never permits a soldier to leave the hospital till he is so completely recovered as to enter immediately on his military duties.

2. *Acute Bronchitis.*—Of 76 cases of this disease, M. Broussais lost one. General and local bleeding, especially the latter, was principally trusted to—the leeches being applied to the places mentioned above. There were seldom more than 20 leeches applied at first—and afterwards a small number were applied wherever the rale could be distinctly heard. Blisters were employed in only seven cases. In about 20 cases of bronchitis the inflammation spread to the mucous membrane of the stomach, requiring leeches to the epigastrum. It was surprising to see how soon the detraction of blood from this quarter calmed the irritation of the whole system, and reduced the fever. In many of these cases the appetite came on quickly after the leeches, and it was difficult to restrain the patients from committing excesses. More relapses, however, were occasioned by exposure to atmospherical vicissitudes than by imprudence in diet. The mean term of residence in hospital for this inflammation was 14 days. One case proved fatal. The young man had had cough during the whole of the winter, and was affected with acute bronchitis fifteen days before he was sent to the hospital. He was then spitting up large quantities of purulent matter, and was unable to lie down in bed. He died on the fifth day after he was received into hospital. The trachea and bronchia were found filled with muco-purulent matters, and the lining membrane intensely reddened. The parenchyma of the lungs was, in some places, hepatized. The mucous membrane of the stomach, and also of the jejunum, was inflamed. The patient, therefore, evidently died of suffocation from the effusion into the air-passages.

3. *Pneumonia Acute.*—Of sixteen cases of this disease, three died, and a fourth remained doubtful. They were all accompanied by great congestion of blood, not only in the chest, but in the abdomen and other parts, rendering the treatment very difficult. One, two, or three general bleedings were followed by leeches to the chest, or to whatever part appeared to be the seat of congestion. In six cases only were blisters applied. Diminution of the force and frequency of the pulse—of the rale crepitant—of the dull sound—of redness on the cheeks;—and, on the other hand, the facility of expectoration were the signs for discontinuing depletion, and trusting to the efforts of nature. If, after these favourable phenomena appeared, there was

heard any rale in any part of the chest, then a blister was applied. Mean stay in hospital for pneumonia was 22 days.

The first of the three fatal cases died on the fifth day after he was received into hospital, having been ill for twelve days previously. The depletive system was pursued as far as was consistent with prudence, but it was too late. On dissection, considerable portions of lung were found hepatized, and much muco-purulent matter could be squeezed from the rest. The brain was sound; but the mucous membrane of the stomach was highly inflamed, and there were ulcerations in the ileum.

The second patient, whose case proved fatal, had been ill only four days, according to his own account. When received, the dyspnœa was great, and he was spitting up bloody expectoration, with hard full pulse, great heat of skin, and ardent thirst. One general and one local bleeding somewhat relieved these symptoms; but the inflammation spread to the digestive apparatus, and required many leechings. The patient appeared to be convalescing, when a relapse took place, and then all means failed. On dissection, the posterior half of the left lung was found hepatized, and a considerable portion of the other lung was in the same condition. The mucous membrane of the stomach was softened, and there were marks of inflammation in the mucous membrane of the small intestines.

Before taking up the subject of chronic inflammation of the lungs, M. Broussais thinks it necessary to say a few words respecting those acute thoracic inflammations which were on the point of changing into chronic, and which would have certainly induced phthisis, had it not been for the rigid antiphlogistic means that were used. Of 200 patients that entered the hospital during five months, and who were affected with pulmonary inflammation, only one has died of phthisis. In eleven cases, however, the inflammation proved obstinate, and phthisis was *menaced.* The following are the signs, M. B. observes, which indicate that chronic inflammation is taking place, to end in pulmonary phthisis. When patients, relieved from the acute symptoms, and especially from those of gastric irritation, begin to recover their appetite—become cheerful—and regain some degree of strength. They think themselves well, in fact, and regard the remaining cough as nothing. But the attentive physician will readily perceive that notwithstanding these appearances of amelioration, a focus of inflammation remains. There will be found some rale muqueux or rale sibilant, or both—the sound will be less clear, on percussion, over these points of the chest—the breathing will not be quite free—the chest will be raised, en masse, on inspiration; or one side will rise more than the other—the cough still continues, though much diminished—there is expectoration of a yellow mucus, or muco-purulent fluid—the pulse is more frequent than natural, and more full, especially towards evening—there is some pain or uneasiness complained of, under the sternum, at the epigastrium, or in the throat—the skin is dry and hot in the day, and often covered with perspiration in the night—the features of the countenance indicate some internal suffering, however the patient may endeavour to conceal it, which he almost always does. When patients are examined by the stethoscope they will breathe remarkably low, lest the wheeze (rale) should be heard. In short, they take every means of misrepresenting their actual condition, lest they should be deprived of food, and put upon rigid regimen. In these cases, the Professor was obliged to have repeated recourse to leeches under the clavicles, over the sternum, and other parts of the chest, wherever the wheeze could be most distinctly heard with the ear. To these means, were added blisters and severe regimen—chiefly milky and farinaceous food. If the appetite became very keen, although the pulmonary affection was not entirely dissipated, some bouillie was allowed, and, in this manner, they were kept under regimen for 10, 15, or 20 days. Nine out of these eleven patients were discharged cured, in the course of March and April, 1827. The other two remained a long time doubtful, and one appears not yet secure; the other has, ultimately, been saved from phthisis, though of a highly strumous habit, and consumptive family.

4. *Chronic Bronchitis.* In a considerable proportion of these cases, regimen alone succeeded; with the aid of some trifling narcotics. In some cases, it was necessary to employ local, and even general bleeding. By these means, all the cases recovered. The same may be said of the other chronic phlegmasiæ of the chest.

5. *Acute Gastro-Enteritis.* Of sixty cases of this disease, one proved fatal. In almost all the other cases, the disease gave way to the first, second, or third application of leeches—a few resisting the antiphlogistic treatment for a longer time. The complaint commenced with thirst, loss of appetite, general malaise, sense of heat at the epigastrium, redness of the point of the tongue, occasionally by vomiting, slight delirium, vertigo, &c. Some were taken suddenly and violently ill—others were slowly affected. Fourteen or fifteen of these cases are denominated, on the books of the hospital, "*gastric irritations,*" being simple *gastro-enterites,* following a very rapid course. The symptoms of these were:—Cephalalgia, general sense of fatigue, inappetency, redness of the tip of the tongue, thirst, heat of epigastrium, some elevation and frequency of the pulse. Four of these cases ceded to regimen alone—the others to ten, fifteen, or twenty leeches applied to the epigastrium, seconded by rigid abstinence, and emollient mucilaginous drink. In four cases, the disease presented itself in the form of inflammatory fever, and two of them required general bleeding, in addition to the leechings. In one case, the fever was on the point of passing into the adynamic (or what is here called typhoid) state; but two appli-

cations of leeches, one of 30 and the other of 10, to the epigastrium, hypochondria, and chest, with friction of vinegar, &c. arrested the progress of the stupor, and saved the patient from a dangerous form of disease into which he was lapsing.

In two cases, there were presented the symptoms of what the ancients denominated ileus, without knowing its cause. This was a sudden development of a circumscribed tumour in the abdomen, accompanied by vomiting and most painful colic, &c. In one case, that of a young man, aged 29 years, the tumour appeared suddenly in the night, and to ease the pain, he had swallowed a quantity of brandy and sweet oil, which were soon thrown up by vomiting. Next day, leeches were plentifully applied to the tumour, followed by fomentations. On the succeeding day, there was neither vomiting, pain, nor tumour. The bowels were opened, and, in a few days, he was discharged cured.

In the other case, the patient being a man 52 years of age, the pain was not very acute, but the vomiting was very frequent. This man had also swallowed some hot brandy and oil, which increased the sickness. The tumour was very sensible to the hand, as well as to the eye, being situated in the region of the caput coli. The pain was like that in colica pictonum, but dreadfully severe, and he begged for speedy relief from his sufferings. Twenty leeches were applied to the part. Next day, all the symptoms, and all traces of the tumour had disappeared. M. Broussais does not say much as to the real or supposed nature of these tumours in the abdomen. He thinks there is evidently acute inflammation—and possibly invagination—both of which speedily cede to the only proper mode of treatment; copious leechings and fomentations. He makes no mention of any accumulations in the colon, as the probable cause of these sudden tumours. We have seen several instances of this complaint—and one lately, in the person of a Medical Student of the Middlesex Hospital. He was, at one time, in a dangerous predicament, having neglected the complaint for a day or two. He required repeated local and general bleeding, with fomentations, calomel and opium, and smart purgation, when the disease yielded; but not before his face had assumed the Hippocratic cast, and the pulse had remained for more than 24 hours above 160 in the minute. He was judiciously treated in the beginning, by Mr. Weatherfield of Covent Garden, before we saw him.

There were some serious complications of these gastro-enterites. The most formidable was erysipelas supervening on, or succeeding, the fever occasioned by the gastro-enteric affection. Yet, even in these cases, M. Broussais did not hesitate to apply numerous leeches to the cutaneous inflammation—and, it appears, with perfect success.

The following are the principal features of the gastro-enteritis which proved fatal. The patient was in a desperate condition when he entered the hospital on the 12th November. When examined, his countenance had a very bad appearance—he was propped up in bed, breathing with much difficulty—tongue dry and red—thirst ardent—total loss of appetite—much wheezing in the right side of the chest, which seemed depressed—deafness—diarrhœa. He was bled from the arm, and leeches were applied to the epigastrium and anus—clysters were thrown up, and various means were used, but in vain. He died on the 20th of the same month. On dissection, the mucous membrane of the stomach was found of a dark brown colour, and the lower portion of ileum was studded with innumerable ulcerations. The rest of the intestines were sound; but the right lung was completely disorganized, and contained several excavations.

7. *Acute Duodenitis.* There were seven distinctly marked cases of duodenitis, and five where it accompanied other affections. In all but three of these cases, there was general jaundice. None proved fatal. In two cases, the disease appeared to be brought on by paroxysms of anger. The characteristic features were, a loaded tongue, (the crust of fur being of a grey, white, or greenish cast) bitter taste in the mouth—great diminution or total loss of appetite—a shining puffiness (renitence) in the region of the duodenum, seldom accompanied by pain. The treatment consisted in the application of 8, 10, 15, 20, or 30 leeches to the duodenal region. In the majority of cases, one application was sufficient. To this measure, warm baths were sometimes added, which helped to dissipate the jaundice. In these cases, starvation was indispensable, till the duodenitis ceased.

8. The cases of Colitis, eight in number, were easily removed by one or two applications of leeches. Diarrhœa was the characteristic feature. Rice gruel and rice pudding were found the best species of aliment.

The cases of chronic gastro-enteritis were few in number, and offered nothing particular in symptoms or treatment. Regimen is, in these cases, the mainspring of the cure.

The other diseases in the table do not require any particular notice. The following statement from the records of the Val de Grace, is certainly very favourable to the new physiological doctrine, and we entertain no doubt whatever of the superiority of the practice inculcated by this doctrine over the old routine of stimulants and tonics, in chronic diseases—"medecine expectante" in acute.

The ratio of mortality was thus;—

March, 1804 to December, 1809	1 in 12
January, 1810 to December, 1814	1 in 10
January, 1815 to December, 1819	1 in 32
January, 1820 to December, 1824	1 in 27
January, 1825 to December, 1826	1 in 30

Annales de la Med. Physiol. Mai, 1827.

From the Medico-Chirurgical Review.

CASES OF INTERNAL STRANGULATION. [La Charité. M. Louis.]

These cases are uncommon; but they are probably not so much so as is imagined. Mo-

dern pathological investigations are daily placing such instances on record.

Case 1. A female, aged 34 years, of moderate embonpoint, was admitted into La Charité, on the 15th December, 1824. Her menstrual discharge had been suppressed from the age of 18, and she suffered pains in her loins, and other inconvenience, at stated periods ever since. She had been six days ill before she came to the hospital. The complaint commenced with thirst, loss of appetite, nausea after taking food, shiverings, perspirations at night. Still she had regular, though scanty evacuations from the bowels. On the fifth morning, she had numerous bilious vomitings, with pains in the hypogastrium, which pains became more and more considerable, accompanied by a burning heat there, augmented by pressure. *Sixth day.* The vomiting still continued, and there was obstinate constipation, with an indescribable pain about the anus.

At this period, she was bled from the arm, by a private practitioner, without any relief. On coming into hospital, she presented the following symptoms:—Countenance yellow, and exhibiting signs of prostration—malaise—anxiety—constant restlessness—white but moist tongue—ardent thirst—epigastrium soft, and void of pain—nausea—abdomen rather distended and painful below the umbilicus—constipation—retention of urine—pulse small, quick, and feeble—temperature of skin little elevated. The bladder was emptied by the catheter, and 30 leeches were applied round the umbilicus, to which succeeded fomentations and lavements, but the *latter* could not be thrown up. 16th. No relief; indeed, the symptoms were rather aggravated, and the abdomen more enlarged. Another relay of leeches—warm bath—castor oil by the mouth. Lavements could not be made to pass up. 17th. The skin was generally yellow, and the features shrunk, while the abdomen was still more distended, and the constipation as obstinate as ever. M. Chomel examined the rectum with his finger, and found it spasmodically contracted. 18th. She died.

Dissection. We pass over the appearances in the head and chest, as presenting nothing particular. On laying open the abdomen, the small intestines rushed out, and were greatly distended. In several places, they were glued together by coagulable lymph of recent secretion. The strangulation was found in the ileum, 22 inches from the cæcum, and the portion of strangulated gut was two feet in length. The strangulation was effected by means of a ligamentous cord, 21 lines long, and one line broad, which bound the ileum to the sigmoid flexure of the colon. This cord, which was probably slack in a natural state, had formed a kind of noose, through which the knuckle of intestine had unfortunately passed, and thus became strangulated. The more the ileum was distended, the tighter the stricture became. It is difficult to conceive how a band or cord, only 21 lines in length, could thus form a noose, through which so large a portion of bowel had descended; but such was the fact, and, therefore, all the symptoms antecedent to death were easily explained.

Case 2. A female, aged 31 years, was admitted into La Charité, on the 30th April, 1827, having been ailing for three months previously. The complaint had commenced with pain of a wandering kind in the abdomen, nausea, bilious vomitings, thirst, and occasional chills, followed by increased heat. These symptoms continued, with more or less intensity, for ten weeks, during which she could not procure alvine evacuations without the aid of lavements. Her appetite had entirely failed, and she lived solely on small quantities of milk. More than a hundred leeches had been applied to the abdomen, without any benefit. For a fortnight before entering the hospital, the constipation had been obstinate, the lavements returning unchanged, and the vomitings were frequent. May 1st. Great anxiety—expression of suffering in the countenance—constant change of position—plaintive moanings—the intellectual faculties unaffected. Her tongue was red and dry—thirst urgent—occasional nausea—abdomen voluminous, and, while in pain, the convolutions of the intestines could be plainly distinguished. Leeches were applied to the abdomen. 2d. The pains were rather mitigated; but no other alteration in the symptoms was perceptible. Purgative lavements were thrown up, and eight grains of calomel were given by the mouth. The patient was in great pain during the remainder of the day, and had two very small motions. She died the next day.

Dissection. There was no extravasation in the abdomen, which was principally occupied with the distended convolutions of the small intestines not adherent to each other. A portion of ileum, not far from its termination in the cæcum, was found intimately adherent to the side of the uterus in the pelvis, and there a kind of zig-zag twist or knot had formed, which completely strangled the intestine. The small intestines were, of course, greatly distended with matters above the obstruction, and their mucous membrane was ulcerated in several points. It was observed that the coats of the distended ileum, above the obstruction, were prodigiously thickened, especially the muscular coat—doubtless from the constant efforts which the tube was making to force the obstruction below. This teaches us how the parietes of the heart may acquire a state of hypertrophy, where an obstacle is presented to the flow of blood through the vessel.—*Archives Générales.*

These two cases are the only ones of the kind which M. Louis has observed, during a period of six years, in La Charité, where he examined, in that period, 530 dead bodies. In eight years, we have met with two cases of this kind, in private practice—one of which was that of the late Mr. Belzoni's servant, of which case we stated the particulars in a former number of this Journal.

From the Medico-Chirurgical Review.

INTESTINAL INVAGINATIONS.

[M. Buet. Hotel Dieu.]

Intestinal invaginations or intus-susceptions are often seen in young subjects who have died of other diseases, and appear to take place in the act of dying, from some convulsive or inordinate movements of the muscular fibres of the intestines. They are thus, probably, of no consequence whatever. But when a portion of small intestine is inverted into the colon—or when a portion of this last is inverted on itself, it becomes a very serious affair, and most generally fatal. It is with the view of furnishing some data for distinguishing this last and dangerous species of invagination, that M. Buet brings forward the two following cases, from the wards of Dr. Hussen, in the Hotel Dieu of Paris.

Case 1.—On the 17th of April, 1825, there was received into the above-mentioned hospital a man, aged 40 years, formerly a soldier, but now a tradesman. This man, of large stature, and strong constitution, presented the following symptoms when received into hospital:—Abdomen very hard and distended, as well as painful on pressure, especially in the *left* iliac fossa, the *right* being rather depressed, and void of pain, when pressed. The abdominal muscles appeared in strong action—pains in the loins—frequent eructations—vomiting of yellowish matters—constant inclination to stool—colicky and dragging pains in the belly—constriction about the throat. During the paroxysms of colicky pains, the left iliac region presented the figure of a large convolution of intestine, bent on itself. The poor man's countenance was indicative of great suffering—the tongue was furred—much thirst—slow pulse. The patient stated the following particulars of his illness. During ten years' sojourn at Rochefort, he had experienced several attacks of intermittent fever, which had been treated by vomits, purgatives, and tonics, &c. Afterwards he was very subject to vomiting and diarrhœa. On the 20th December, 1824, after some muscular exertion, he felt, in the *right* iliac fossa, a very acute pain, followed by colic, vomiting, and purging. These attacks came on frequently afterwards, with intervals of ease. He had occasionally discharges of blood from the bowels. The means that had been employed were leeches, fomentations, demulcent drinks, and the like. M. Hussen considered the case as hopeless, and that nothing could be done but sooth the remainder of the patient's days. Thirty leeches were applied to the anus, anodyne lavements were thrown up, and fomentations were ordered to the abdomen. Little or no relief was obtained by these means. On the 23d of April, while straining at stool, the patient felt as if something had given way in his abdomen, and in a few minutes more, he became very ill, the abdomen becoming inflated, and exquisitely tender to the touch. He died at eight o'clock the same evening.

Dissection.—The peritoneal lining of the abdomen was every where inflamed, but there was now extravasation. Patches of recent coagulable lymph were, however, numerous. The small intestines were excessively distended with gas. Neither the cæcum nor ascending portion of colon could be found—they were carried forward, and enclosed in the last half of the transverse arch, and in the sigmoid flexure of the colon, which was as thick as a man's arm, and hard or solid to the touch. On examination, the cæcum was found lodged in the sigmoid flexure, in the iliac fossa. The invaginated portion consisted, therefore, of three parietes, as may be easily conceived, from the mode of introversion, since a portion of ileum was necessarily carried in with the cæcum and ascending arch of the colon. The invaginated parts were agglutinated together, and, in some places, gangrene had commenced. There was nothing particular in the other portions of intestine, beyond the distention, which might be naturally expected above so serious an obstruction to the evacuation of the bowels.

This case, M. Buet thinks, illustrates the effects of long continued and drastic purgatives, to the intemperate use of which he attributes the invagination above described. This case also shows that an intus-susception of great extent may exist for a long time, and yet a passage for liquid fæces may still obtain. Up to the day before the patient's death, he had fluid evacuations from his bowels.

Case 2.—Pradier, aged 22, who had been in the hospital at Clermont, for vomiting and diarrhœa, with colicky pains, came to Paris, in July, 1825, in a very bad state of health, and entered the Hotel Dieu, on the 8th of August, under Dr. Hussen. The patient's symptoms, at this time did not portend the existence of so serious a malady as that which actually obtained. He had colicky pains and diarrhœa, with intervals of perfect ease, and his complexion was nearly natural. He was ordered emollient fomentations, diluents, and lavements. On the 12th and 13th of the same month, the symptoms were observed to be aggravated—the features were sharp—the pulse concentrated—and the iliac fossa of the left side was very painful, on pressure. Leeches and opiates were prescribed. 14th. The pain was insupportable, and the patient felt as if something was tearing in his inside. He had nausea and vomitings, with spasmodic contractions of the fingers and other parts. 16th. Symptoms of peritoneal inflammation were evident, and leeches in great numbers were applied; but the disease went on unchecked, and death terminated his sufferings on the 18th of the same month.

Dissection.—The peritoneum was highly injected, and there were numerous adhesions and false membranes seen in different parts, but no effusion or extravasation. Neither cæcum, ascending or transverse arch of the colon, could be found. The descending portion was as thick as a man's arm, and very hard. On performing moderate traction, it

was easily discovered that the cæcum and ascending and transverse arches of the colon, together with a portion of ileum, were engulphed in the descending portion of the colon. The cæcum was found in a state of gangrene.—*Archives Générales.*

From the Annales de la Medecine Physiologique.

ARACHNITIS.

A young man had been successively attacked by two eruptive diseases,—scalatina anginosa in the first instance, which was only remarkable in that the face did not participate in the redness of the rest of the body; the fever continued after the desquamation, accompanied with anorexia and burning heat of the skin, symptoms indicative of inflammation of the digestive organs. These symptoms continued eight days, undiminished by the remedies employed for their removal. Confluent small-pox now made its appearance, and terminated more fortunately than the preceding eruption, for about the twelfth day, the patient was free from fever, and had an excellent appetite; his diet was gradually improved, and he did not complain of the slightest uneasiness. One morning, he was found by the attending physician, in a state of great agitation, moaning and crying aloud when obliged to make the slightest motion; when questioned, he did not reply, but merely indicated by his groans the extent of his suffering. A careful examination was made of the abdomen, during which the patient redoubled his cries; as he kept his hand constantly applied over the hypogastric region, which appeared also more tender upon pressure than any other part, he was supposed to be labouring under cysto-enteritis, a supposition corroborated by the circumstance that there was some difficulty in micturation. Twelve leeches were applied above the pubis, but little blood was drawn; the patient continued to grow worse, and died in the evening.

Upon dissection, there was not the slightest trace of gastro-enteritic inflammation; the mucous membrane of the stomach never presented a more white and healthy appearance; the peritoneum also, was sound, and the bladder, though greatly distended by its contents, was entirely uninflamed. The cause of all his symptoms was found in the head, and consisted in an inflammation of the serous membrane enveloping the two hemispheres, and reflected upon the internal surface of the dura mater, terminating in the formation of pus, which escaped upon an incision being made into the latter. The tunica arachnoidea was opake and but slightly thickened; indeed, sufficient time had not been allowed for it to become so; the pia mater presented a very injected appearance; the substance of the brain was unaffected.

It was afterwards ascertained, that in consequence of exposure to cold during his convalescence from the small-pox, he was attacked with pain in the head, sensibility and redness of the eyes, grinding of the teeth, &c. quickly followed, by the loss of consciousness and the other symptoms noticed above.

Reflecting upon this case, in the possession of all the symptoms and the seat of the disease, as displayed by post mortem examination, the rationale presents no difficulty; a violent determination of blood to the arachnoid membrane, followed the exciting cause, and inflammation was the consequence. The severity of the pain, is here as in all other serous membranes, in direct proportion to the violence, with which the inflammatory action tends to engorge and distend a tissue naturally hard and resisting,—a proof, it may be observed, *en passant*, that the nerves which enter into the composition of those membranes, preserve unimpaired their sympathy with the brain. To this acute pain, and the sudden engorgement of the vessels of the encephalon, must be referred the cephalalgia, the redness of the eyes, their sensibility, and the trismus, symptoms which were unknown during the short space of time, he was under medical treatment; and it is thus also, that we must explain the painful condition of the muscles of voluntary motion, a circumstance which has hitherto not received all the attention it deserves.

From the Annales de la Medecine Physiologique.

FRACTURE OF THE CRANIUM WITH DEPRESSION, AND DISCHARGE OF A PORTION OF THE BRAIN. By M. Perroud.

Philibert P——, two and a half years of age, received a violent blow on his head, from the kick of a horse, and fell without consciousness, weltering in his blood. A health officer who happened to be near at the moment, removed the hair, and was in the act of applying compression to a soft sanguineous tumour, situated on the lateral and inferior portion of the left parietal bone, when I arrived. Examining carefully the tumour, which yielded readily in its centre, it appeared surrounded by an elevated margin, resembling a ridge of bone, crepitation was distinctly perceptible, especially in the neighbourhood of the sagittal suture, where there was a small wound; pressure upon this part, gave exit to a dark grumous blood, with some particles of white matter, which was evidently cerebral substance. No doubt therefore existed, of a fracture of the cranium with depression, rupture of the cerebral coverings and discharge of a portion of its substance. The child was pale and cold; the wound had bled freely, and the hæmorrhage still continued, though not to such an extent as to prove dangerous. An emollient cataplasm was immediately directed to be applied over the whole head, and any further detraction of blood deferred, till symptoms supervened to render it necessary, the pulse indeed, was almost imperceptible. Heat was directed to be applied to the body, and some spoonsful of a warm infusion of the linden bark, to be given internally.

In the evening, the dressings were found soaked in blood. The temperature of the body was re-established and intelligence had returned, though the little patient still continued in a state of drowsiness: there was agitation of the left arm and leg, and paralysis of the right side. A repetition of the cataplasm was directed; barley water for drink, &c.

Second day.—The night was passed in a state of agitation, and the sleep of the patient was interrupted by cries; his countenance is red and animated; pulse hard and frequent; the dressings still stained with blood, and a white substance is observed projecting through the wound and apparently strangulated by it, evidently a portion of the brain. The same remedies continued.

Eighth day.—A fluctuating tumour is observed over the sagittal suture; the original one has increased in size; the state of the extremities above mentioned continues; the protruded portion of the brain is detached; the agitation is always less during the day, than in the night; at this latter period, the pulse is more frequent and elevated, and the countenance more animated; the appetite begins to return.

Twelfth day.—The two tumours were opened and their contents evacuated, affording a better opportunity of observing the fracture and depression of the bone. Same dressings, milk diet, &c.

Twentieth day.—The paralyzed members begin to execute some slight motions; the depressed bone appears to have regained its original situation; a small quantity of pus is discharged from the openings made into the tumours.

Thirtieth day.—The child is lively, eats with avidity, and has more command over his movements; he is still, however, unable to walk. At the expiration of the second month, he had acquired the full use of his arm, and that of the leg had so far returned that he was enabled to walk, though imperfectly, requiring the assistance of another person; his intellect appears unimpaired by the accident, and no depression is observable in the place of the fracture.

The expectant treatment pursued in this case was justified by the event, and is perhaps in accordance with the dictates of reason. The general principle in such cases is to cut down upon the fractured portion, and elevate the depressed bone, and it may have its advantages; but if I had adopted it in the preceding case, I should have exposed to the air, a great extent of denuded bone which would necessarily have exfoliated and the membranes of the brain, deprived of their osseous covering, would have more readily passed into a state of inflammation; it may be questioned, moreover, whether the application of the trephine would have been practicable, upon the soft and flexible cranium of so young a child, at any rate, if the symptoms had increased and assumed an alarming character, this resource was always in my power. I am inclined, therefore, to the belief, that the practice above detailed, will always be the most eligible in very young children; the bones recovering their original situation, in such cases, through the medium of their elasticity; while in older subjects, the general rule should be adopted. In relation to the medical treatment, it may be observed, that the hæmorrhage from the wound was sufficient to moderate the inflammatory action, and therefore rendered general depletion unnecessary.

Remarks by M. Broussais.—The reflections of Dr. Perroud upon the preceding case, appears to us as perfectly correct. We will add to them the following:—It is never prudent, how violent soever the subsequent inflammation may be expected to prove, to endeavour to prevent it, by present depletion, when the action of the heart is weakened and the pulse small and feeble; in such cases, we should await the reaction of the system, ere we institute measures to overcome the inflammation; for the same patient, from whom, with a hard and full pulse, we might detract with impunity several pounds of blood, would probably die from the loss of as many ounces, in a state approaching to syncope. We have already made the same remark in cases of convulsions arising from inflammation of the brain or its investments; bled during the filiform condition of the pulse, the life of the patient is exposed to imminent hazard; whereas, if we temporise under the use of demulcents, the warm bath, fomentations and revulsive applications, until the returning fulness of the pulse, temperature, &c. bear evidence of the re-action of the system, the detraction of blood, in whatever manner performed, will be found advantageous. These precepts, alike applicable to all ages and constitutions, have been successfully carried into execution by M. Perroud at a period of life, when their observance is a matter of greatest importance.

From the Bulletin Universel, &c.

DISEASES OF THE NECK OF THE UTERUS.

M. Dupuytren divides the diseases affecting this part of the uterus, into six species; 1st, Chronic inflammatory engorgement; 2d, Scirrhous engorgement; 3d, True cancerous ulceration; 4th, Fungous and carcinomatous vegetations; 5th, Superficial ulceration of the mucous membrane: 6th, Cellular and vascular polypi. The following symptoms are given as distinctive of these several affections. In the first, the patient complains of an unusual degree of heat in the vagina and neck of the uterus, which is apparent to the finger of the physician making an examination; with the aid of the speculum, the organ is found increased in size, and blood is observed to flow upon the slightest contact, by exhalation from the capillary vessels. This disease, is most frequently caused by an excess, or suppression of the menstrual or hemorrhoidal evacuations,

and with the superficial ulceration, is decidedly the most curable.

2d. Scirrhous engorgement of the neck differs from the preceding in the absence of hæmorrhage when touched, in the greater concentration of the disease, the neighbouring tissues being less affected, but especially by the lancinating pain, by which it is accompanied; this however is found also in cancerous ulceration, in which case the solution of continuity, and the greater or less degree of induration must determine the diagnosis. In the advanced stage, the inguinal glands become involved.

3d. In cancerous ulceration, the loss of substance is sufficiently evident upon manual examination, presenting an unequal surface, with indurated margins. The speculum is here of much service in forming the diagnosis, as it enables us to see the exact dimensions, and the greyish colour of the bottom of the ulcer; the discharge is very abundant, and sometimes purely serous, its colour varies, but it is always very fetid. The disease extends to the coats of the bladder and rectum, producing ulceration, and converting the vagina into a kind of imperfect cloaca, through which are evacuated, the urine, fæces, and the discharge from the uterus.

4th. The fungous or carcinomatous degenerescence is easily recognized; there is here an augmentation of volume, with a marked softening of structure, blood flows freely from the part when handled, and it may be remarked *en passant*, that should a second physician be called in, the patient frequently complains of the harshness of the first in thus exciting hæmorrhage during his examinations. In this variety, pieces of the vegetations of various sizes, soft, greyish and friable, can often be readily detached with the finger. Polypi with excoriations on their lower surface, are occasionally confounded with this disease, and M. Dupuytren relates several instances in which this mistake was made.

5th. The superficial ulceration of the mucous membrane would frequently escape detection, if manual examination only were resorted to, since from the feel of the parts, we might be inclined to suspect the existence of the third variety; but with the assistance of the speculum, all danger of thus confounding the two diseases is removed; the ulceration is then perceptible, of a florid colour, situated on one of the lips of the os tincæ, or on the external part of the neck, and appearing as if formed, by the removal of a portion of the mucous membrane; it cannot indeed, be better compared, than to the ulceration of the nose, known by the name of ozena. This disease has been sometimes mistaken for cancer.

6th. Cellular and vascular polypi which present symptoms analogous to those of cancer of the neck of the uterus, escape from their minuteness, the most careful examinations, and occasion no little vexation to both physician and patient. When however, we avail ourselves of the assistance afforded by the speculum, in conjunction with manual examination, and a careful observation of the attending symptoms; serous or sanguineous discharges, increased by coition, the approach of the menses, &c. and accompanied with a sensation of weariness in the loins, and of heaviness in the fundament, together with a state of great mental and corporeal exhaustion, resulting from the discharge, there is little danger of error in forming the diagnosis. On introducing the finger within the os tincæ, two, three, or a greater number of small elongated bodies, are perceived, furnished with pedicles, implanted in the inferior portion of the cavity of the neck of the uterus. These small bodies vary in size from a pea to a French bean, and bleed upon the slightest touch; the state of the parts is still more accurately determined by means of the speculum.

Treatment. Antiphlogistic measures, the application of leeches to the neck of the uterus, groins, &c. while they effect a cure of the last variety, frequently prove palliative in the second; cancer of the uterus is almost invariably incurable; the fungous vegetations may be removed in the commencement of the disease, but are very liable to sprout again. Cauterization is generally successful in the superficial ulceration, and very delicate forceps may be used to extract the polypi. Potash and the nitrate of silver, are the caustics preferred by M. Dupuytren, who thinks that the danger of metritis is much diminished by plunging the patient in a warm bath immediately after its employment. During the last twenty years, he has cured twenty cases by excision, and twenty-five by cauterization.

From the Medico-Chirurgical Review.

MEMOIRS OF WEST INDIAN FEVERS; *constituting brief Notices regarding the Treatment, Origin, and Nature of the Disease commonly called Yellow Fever.* By James Wilson, M. D. of the Royal Navy. Octavo, pp. 217. Burgess and Hill, October, 1827.

Although war has long ceased to afford victims for yellow fever, on a large scale; yet, the disease has not altered its character. Whenever the seasons suit, and the European comes within the range of its pestilential breath, this devouring angel proves itself as merciless and destructive as during the disastrous expeditions and campaigns of the revolutionary war. The number of works which issued from the press, in the course of that prolonged struggle, on the subject of yellow fever—the jarring and conflicting testimonies respecting its nature—and the general inefficacy of treatment in the more concentrated forms of the disease, produced a kind of reluctance in the public mind to listen any longer to the declamations of the brawling controversialists—and the consequence was, that we have had but little on the subject, in the English language, for several years past. On

the continent, indeed, a species of desultory warfare still reigns between the contagionists and anti-contagionists; but, in this country, we are heartily sick of such discussions, as the parties have never been able to convert each other to their respective creeds; nor have they succeeded in producing any general conviction in the minds of the public, as to the true state of the questions agitated.

Dr. Wilson, the author of the work under review, although he touches on all the different points of controversy, yet writes like a medical philosopher and a practical man, investigating calmly, and observing accurately, the phenomena of the disease, its real or supposed causes, and the means which have proved efficient or ineffectual in the treatment. On this account, Dr. Wilson is entitled to a candid perusal, although he may be found to have embraced some tenets and views which are hardly tenable in the present state of medical knowledge.

The work is dedicated to the Medical Commissioners of His Majesty's Navy—Drs. Weir and Burnett; and, in his Preface, the author states it to be his chief object to point out the difference between the *inflammatory* and *congestive* modifications of West Indian fever, and to indicate the principles of practice adapted to each. In this place, Dr. W. takes an opportunity of paying a just tribute to the deep thought and talented researches of the late Dr. Jackson, whose writings on fever were never generally appreciated in the manner they deserved, owing, perhaps, to a want of perspicacity—or, at all events, to want of power in conveying his own thoughts to the minds of his readers.

The work contains five memoirs—the first consisting of cases, illustrating the mild inflammatory—violent inflammatory—intense inflammatory—slight congestive—aggravated congestive—and apoplectic congestive forms of fever. The second memoir is on the *cause* of yellow fever;—the third memoir develops "*new opinions*" as to the cause of fever:—the fourth memoir discusses the question, whether West India fever be or be not, a peculiar disease:—and the last memoir is dedicated to an investigation of the *manner* in which the cause of fever impresses the body.

We shall pass very lightly over the first memoir. A severe visitation of this endemic among the crew of the Rattle-snake, appears to have furnished Dr. Wilson with examples of the six forms or modifications above alluded to, and we believe they are carefully copied from life. The following extract will convey a good idea of the different grades of the inflammatory genus.

"The most constant and prominent symptoms of the inflammatory were, with or without rigour, frequency and strength of pulse, wiry, compressed, or full; a hot non-secreting condition of the skin, particularly at the præcordia and across the forehead; headach, confined generally to the sinciput, with sense of fulness in the eyes and tightness between the temples; jactitation, and constant rolling or otherwise moving of the head; flushing of face, with prominence, wildness, and sometimes inflammation of the eyes; pain in the back and loins, shooting across the anterior parietes of the abdomen, involving the whole contents in tumult; aching in the lower extremities, especially the knee joints, calves of the legs, and tibiæ; sometimes abdominal tension and tenderness in the early stages, sense of emptiness and exhaustion there as the disease proceeded. In the course of the second evening the symptoms were generally aggravated, and the stomach in many cases became irritable; but this symptom did not occur in the *intense*, and was very tractable in the *mild* species; in the violent, it was exceedingly unmanageable, and often could not be arrested till fatal symptoms came in its train. Delirium was an early symptom in the *violent* and *intense* species, and was always attended with great danger. Costiveness was generally obstinate at the commencement, but was sometimes succeeded by troublesome purging and tenesmus. The tongue varied much in appearance; generally it was white or yellow, loaded and dry, becoming brown or black; urine scanty, high coloured, and attended with dysury in passing; thirst continued and insatiable. The disease generally ran its course within the fourth day. The treatment was briefly as follows.

"In the *mild* species one moderate bleeding, with cathartics and diaphoretics, in most cases, left the patient convalescent in a few days.

"In the *violent* species it was necessary to bleed largely and repeatedly, viz. to the amount of sixty, seventy, or eighty ounces in the first twelve hours; and it was gratifying to observe the benefit resulting. For instance, a man complained of excruciating pain in the head, which he moved incessantly; his eyes were wild, inflamed, and impatient of light; the head, according to his own expression, splitting to pieces; the circulation so hurried and tumultuous, that the body was agitated by every pulsation, and the throbbing of the heart visible through the clothes; the skin scorchingly hot and dry; and the entire aspect indicative of great distress. Yet that man, by copious abduction of blood, free catharsis, and a full dose of calomel and opium, was free from complaint on the second day of the disease, and in a few days more capable of returning to his duty. Such was the general plan of treatment in this form of the disease, and such, in a great majority of instances, the result.

"It was far otherwise in the highest grade of inflammatory fever, or that which I have denominated *intense*. There the vascular action was so overwhelming, and the progress to disorganization so rapid, and often so irresistible, that all endeavours to arrest the disease were unavailing. Symptoms could be mitigated, but the character of the disease was seldom changed, or its force broken: within the first twelve hours the patient was delirious, often furiously; at other times it

was the delirium of engorgement and oppression. In both cases, the action of the carotids was tremendous; the face red, and frenzied in expression; the eye sometimes clear, quick, and piercing, sometimes dull and darkly inflamed, always indicative of great cerebral derangement. The skin had an intensity of heat scarcely conceivable, particularly on the breast, neck, and head. The tongue was parched, hot, and apparently diminished in size; of various colours, generally brownish. The stomach was retentive, and the bowels costive, but not very obstinately so. This state of inordinate action sometimes continued till near the close of the disease, the patient, in such cases, expiring in a fit of violent convulsion. In other cases, the high excitement ceased suddenly, and, as it were, by a momentary act, and was succeeded by coldness of surface, a state of circulation and respiration scarcely perceptible, calmness of countenance, and perfect quiescence of the body, which soon issued in death without a struggle. The disease was of short duration; and no remission could be observed during its course.

"In such cases evacuation was pushed to the farthest extremity that prudence could sanction. Blood was removed at once till some obvious impression was made on the vascular system or morbid condition, but the latter was seldom effected, and this was repeated as often as the symptoms seemed to require the operation, till some favourable change took place, or such collapse or disorganization came on, as absolutely prohibited its further employment. At the same time such assistance was solicited as purging, blistering, scarifying, sponging, &c. could afford. Yet in many cases all was of no avail. The patient has been reduced by blood-letting, till faintness, vomiting, and cutaneous relaxation came on, and in an hour every symptom had risen to its former intensity. The blood-letting was repeated till the same state was induced, and in another hour every thing was to be done again; and thus many times in succession, till destruction of some organ, generally the brain, ensued. There was a fire, so to speak, kindled in the frame, which nothing could quench. I have heard of men, who boasted that they could cure every case of this disease; that was indeed vain boasting, and calls for no remark; but I have read in books of something very similar in pretension. I have no right to measure any man's success by my own; but I may be allowed to doubt, whether in such cases, and in circumstances like mine, such happy results are likely to happen to others." 11.

The congestive genus is a still more formidable and fatal disease—and that which embraced the greater number of Dr. Wilson's cases.

"A sense of stupor, weight, and oppression, rather than pain in the head; a feeling of helpless debility, affecting the spine, most distressing about the sacrum; a paralytic failure of the lower extremities, with pains in the knees and calves of the legs; a pulse having all degrees of celerity and expansion, but always weak, sinking under the finger without resistance; a state of the skin various and difficult to define, but always deficient in tone, sometimes dry and tense, sometimes greasy, and sometimes drenched in sweat; generally without increase of heat, except at the præcordia, where it was confined and smouldering; a most distressing expression of countenance, deadly pale or livid in colour; a drunken idiotic eye, with dilated pupil and sleepy motion; deafness; desire to be left alone; sighing deep and interrupted; early tendency to coma; tension of the hypochondria; and early irritability of stomach; were the principal symptoms by which this division of the disease was characterized.

"In the lowest grade of this genus, viz. the *slight*, these symptoms were not all perceptible, and those that were, had a mild and manageable character. Moderate purging, followed by the use of calomel in five grain doses, two, three, or four times daily, with or without opium and antimony, according to the state of the stomach and skin, soon roused the slumbering energies of the brain, adjusted the balance between the nervous and vascular systems, and restored health.

"In the second or *aggravated* species, more forcible measures and greater perseverance were necessary. I generally bled, as soon as possible, to the extent of ten or twelve ounces at first, for even that quantity induced faintness and vomiting; then administered a purgative medicine; and repeated the blood-letting, or not, according to circumstances. Beyond this I seldom thought it safe to abstract blood; but trusted the remainder of the cure chiefly to calomel. And here I think mercury a remedy of great, of paramount utility. When the patient says that he has no pain; is ill, but cannot tell what is the matter with him; when he turns away with a countenance of helpless despondency from the person addressing him, letting the head drop as in hydrocephalus; when the pupil begins to dilate and hearing to fail; when he shrinks on applying the hand to the epigastrium, and vomits every thing which he swallows, and even in larger quantities; then, in my opinion, nothing can supply the place of calomel. But it must be given largely, and perseveringly. From ten to twenty grains, twice or thrice daily, sometimes with opium, sometimes with antimony, or both, and sometimes alone, I have given in such cases, and, aided by blisters, &c. I have reason to be satisfied with the result. Ptyalism will, in most cases, soon be established; but after all that has been written on the subject, I think I have witnessed the perfect benefit of its operation, without that manifestation. I tried turpentine, but it did not answer my expectations.

"In the highest grade of congestive fever, or that which I designate *apoplectic*, I had to deal with a much more formidable and fatal disease. In the preceding species, there were generally some slight premonitory symptoms;

but in this the attack was like the effect of electricity. In an instant its subject was seized with giddiness, dull pain of head, and confusion of ideas; a sense of coldness, weakness, and indescribable uneasiness along the spine; spasmodic pains in the legs, and paralytic incapacity of the lower extremities. He lay as if stunned, and labouring under concussion of the brain, with dilatation of the pupils, and a gloomy, despairing countenance. The pulse was rapid or slow, full or small, but always weak. The skin was cold, generally greasy, or covered with cold liquid sweat; sometimes dry and lifeless. The stomach was sometimes irritable from the beginning, and there was a strange compound sensation of desire for drink and loathing when tasted. From this state the patient, in some instances, never rallied, but sunk down rapidly to dissolution: he became perfectly comatose: the blood seemed to stagnate in the brain and large internal trunks, and, with filmed glassy eye, faltering pulse, and involuntary discharges, he soon expired. In other instances there was reaction, but faint, partial, and irregular: then existence was protracted, and hopes entertained which were seldom realized, profuse hæmorrhage coming on and exhausting life.

"In such cases, medicine, I fear, will never effect much; and, placed as we were, I consider the usual methods of treatment altogether useless. In some instances, where vascular action succeeded the first fearful impression, I tried blood-letting, and am persuaded that it did mischief; whether or not it might be useful if hot baths and powerful frictions were premised, I cannot say; but I have the strongest conviction, that, without some such preparatory process, it will only precipitate the fatal event. I endeavoured, by friction occasionally, blisters, and calomel, to rouse the sensorial and vital powers from their appalling lethargy; but I must admit, that, with thirty-five cases of fever on my hands at a time, and without assistance, these means were not followed up to my satisfaction. That no other method of treatment would have had happier results, I cannot pretend to say; but I should not expect much from any method. Still I would not leave the patient to his fate, in hopeless inactive despondency. With proper 'appliances and means,' I would endeavour to arrest the disease by the following means; baths of high temperature, with strong frictions, electricity, and galvanism, stimuli diffusible and permanent, enemâta of turpentine, eau de Cologne, &c." 14.

The foregoing graphic sketches of the two genera and six species of the disease are well deserving of record, though our author acknowledges that these different forms were not always so well defined in character at the bedside, as he has endeavoured to render them in description. The *species* sometimes ran into each other, and mingled like light and shade—and not the species only, but even the genera, were sometimes so blended as to render it difficult to determine which was the more predominant. Some years of subsequent experience have only tended to confirm Dr. Wilson in the truth and fidelity of his original description, (transmitted at that time to the Navy Medical Board,) though he now believes that it would have been more nosologically scientific to have made but one genus of fever, leaving the inflammatory and congestive forms to constitute species of the same. The mode of nosological arrangement, however, is of such little consequence, that we shall not dwell upon it here. Dr. W. has introduced a running commentary on the foregoing descriptions, suggested by more extended experience, but not materially altering the principles of treatment already laid down. This first memoir terminates with a selection of cases in illustration; but for these we must refer to the work itself.

II. CAUSE OF YELLOW FEVER.

We all know the controversies to which this subject has given rise; and we are not inclined to renew these altercations. Dr. Wilson comments very acutely on the several causes assigned by different writers—as insolation, or atmospheric heat—marsh miasmata—contagion—contingent contagion—atmospheric constitution, &c. With none of these is our author satisfied, and least of all with contagion. He does not very peremptorily deny the possibility of *contingent* contagion, though he evidently doubts the soundness of the doctrine. He slurs over the convincing facts presented by the fever in the Bann and at Ascension—because he was not an eye-witness of them, which, we think, is rather an awkward way of getting rid of difficult subjects. The following pretty severe philippic on Sir Gilbert Blane has been called forth by the dogmatic and somewhat contemptuous manner in which that venerable physician impoliticly treated those who differed with him on the subject of contagion.

"Perhaps he may extend to me the contemptuous pity, with which he treats a *certain American journalist*, who *dares not to be convinced*, after having considered the arguments adduced by Sir Gilbert Blane, in proof of the contagious nature of West Indian fever. This does not appear the most likely method of obtaining proselytes to a faith, which Sir Gilbert thinks of such importance to humanity. Should not a reasonable being be reasoned with clearly, forcibly, but patiently? Is the mere word of authority, the oracular declaration of any man, however talented, and however exalted, to *convince* another man, who has the power, and uses the privilege, of thinking for himself? But Sir Gilbert Blane tells us that the controversy is to be decided by facts, not by reasoning. Are the facts then so clear, that he who runs may read? Has no reasonable doubt ever arisen in the minds of rational inquirers respecting the import of facts, which, according to Sir Gilbert Blane, ought to remove all doubts and answer all questions for ever? Were all the men who disbelieved, are all the men who yet doubt or disbelieve, either

idiots or knaves? For to this conclusion would the *declamation* of Sir Gilbert Blane lead. To answer such questions would be at once idle and insulting. Men of equal penetration, with better opportunity of judging, and not less anxious to learn the truth, have been led to different conclusions from those drawn by Sir Gilbert Blane; nay, some of them have been *driven* by irresistible evidence, and in opposition to early and long cherished modes of thinking, to draw different conclusions. Was Rush, was Jackson, was Hunter, destitute of common sense or common honesty? Are all the men of the present time, who differ from Sir Gilbert Blane, incapable of *observing facts*, or unwilling to interpret their meaning faithfully. Facts are not always obvious at first sight; they are often encumbered by factitious circumstances, or disguised by false appearances; and ordinary observers do not always find it an extremely easy matter to remove such incumbrances and to strip such disguises: we do not know how Sir Gilbert Blane accomplishes these things so perfectly; we are not told how he has learned, so easily and so unerringly, *to interpret the hand-writing on the wall.* It is strange that the men who have had the best opportunities of *observing these facts*, who have lived long, laboured arduously, and I will add conscientiously, amid the perils and perplexities of West Indian fever, have not seen them in the same or even similar light with Sir Gilbert Blane; for I believe, that, since the time of Dr. Chisholm, no respectable practitioner in the West Indies, who has seen much of the disease, has believed it to be inherently and essentially contagious. And it is passing strange, that Sir Gilbert Blane, who has taken so much pains to teach us the right mode of reasoning on medical matters, should here turn round, and tell us, that all reasoning, in such cases, is not only idle but pernicious! I desire to treat Sir Gilbert Blane with respect, and for his character generally, I do feel respect; but such feelings cannot be forced; and I cannot respect dictatorial intolerance in any man, or any place, more particularly in the exercise of a liberal, but not exact, art; and I cannot admire the temper, which would lead a man, in possession of executive power, *to dismiss from the service of their country such men as could not in conscience subscribe to his articles of professional faith.*" 82.

Dr. Wilson, in this memoir, takes an extensive range over, not only various countries between the tropics, but various localities in the same countries. This memoir is exceedingly creditable to our author's researches, inquiries, and judgment. Dr. W. dwells a long time on the subject of marsh miasmata, and has unnecessarily accumulated proofs that we cannot clearly trace the cause of the yellow fever of the West Indies to mere exhalations from soils of a *marshy* character. This has long been given up; and the more general opinion is, that the cause of fever is an emanation from the *soil*, whether marshy or not, which gives rise to fevers varying according to the nature of that invisible, and hitherto unascertained agent, or the soil which produces it. Our readers are aware that this is the doctrine which we have uniformly maintained in this Journal, from its commencement. We have often employed the term "febrific miasm," as much freer from objection than *marsh* effluvium, or vegeto-animal miasma. The term malaria is, we think, somewhat objectionable, since it conveys the idea of the cause being essentially connected with the *air*, though reason and observation tell us that the cause springs from the *earth*, and is only suspended in, or wafted about by the air. But it is now time to proceed to the author's "new opinions," regarding the cause of yellow fever.

THIRD MEMOIR.

Dr. W. observes, that the West India islands, and parts of the adjacent coasts of South and North America, constitute the proper soil, and are the perpetual sources, of West Indian fever. From the mouth of the Amazon to Charleston in one direction—and from Barbadoes to Tampico in another, the causes of this disease are in constant, though unequal force. It sometimes, as is supposed, extends to New York, and even to the southern parts of Europe. At all events, it reaches from the Equator to the 32d degree of North latitude—and from the 60th to the 98th degree of West longitude. Now, the space included in this vast range exhibits a great variety of aspect, soil, and atmospheric temperature; and, on comparing these with other parts of the world, we can perceive nothing to account for this uniform fertility in the production of a febrile miasm causing yellow fever;—nothing in the heat of the air, the quality of the soil, or the condition of the subject. We must, therefore, after all, take for granted, that there is a *something* generated in the earth, and diffused in the air, to account for this wide spread of fever. Dr. W. comes to the point which we have so long insisted on. "This atmospheric influence, it is reasonable to suppose, is derived from the earth's surface; for we have no notion—can have no notion, of any thing contaminating the air, excepting the earth or its productions."

Dr. W. thinks that this cause, if ever to be discovered at all, will be found by a careful and scientific survey of the more superficial parts of the crust of the globe. We much doubt whether the labours of the geologist and chemist will ever be able to detect the febrific miasm. But, by this, we do not wish to discourage their inquiries. Like the search for hidden treasures, the harvest will reward the toil. This task our author assigns to the medical officers of the army, scattered, as they are, in various parts of the world, and qualified as they are to undertake the investigation. In the mean time, Dr. Wilson himself throws out some hints which he hopes may prove serviceable to those who have better opportunities for prosecuting the inquiry.

He remarks that lime, of secondary forma-

tion, is a predominating ingredient in the surface of the West Indies; while, in many places, there is much recent volcanic matter. Where such kind of surface is most conspicuous, from being scantily covered with earth or herbage, *there* the West India fever is peculiarly frequent and severe—"if the more palpable cause of the disease exist in the vicinity." The foregoing position is exemplified by the following curious topographical fact.

"Rock Fort is placed three miles east of Kingston, at the eastern extremity of the plain of Liguanea, where it is narrowed to the breadth of a few yards, being bounded southward by the sea, and northward by a precipitous mountain. The contracted and scanty soil, east and west, is alluvial, but dry, with the exception of a small spot to leeward; and the appearance of the whole would not give an impression of insalubrity, the sea washing one side, the structure beneath being coral, and the mountain, which rises behind a naked calcareous mass, destitute of soil and vegetation. Yet this has been one of the most fatal spots to our troops of any in the West Indies, the detachments employed in its garrison having been swept off in rapid succession by West India fever. The officers' quarters stood at a short distance from the general barracks; on a dry indurated foundation, close to the mountain, and occupied presumptively a more healthy site than even the general building. But experience has shown that it was more unhealthy. So unhealthy was it, and so concentrated is the cause of fever upon it, that scarcely an individual quartered there, if lately from Europe, escaped with life. It is for the present abandoned." 128.

Even the naval force suffered severely on this station. A well of excellent water springs on this spot, and there the boats' crews were employed in watering the ships. Entire crews were swept off by the fever, and scarcely any escaped who visited that fatal spot.

Stoney Hill is next adduced. The barracks there stand 1300 feet above the level of the sea, and the air is comparatively cool. There is nothing like a marsh in the vicinity: yet it is extremely unhealthy. Dr. W. informs us, however, that this hill, from its base to its summit, is one great mass of calcareous rock, intersected by deep fissures, and split, in many places, into large fragments, heaped on each other, and crumbling into powder. Over its whole surface, there is scarcely any soil, and little grass, weed, or herbage of any kind. "But it has been, and is still, generally covered with forest trees, the roots of which are seen expanded over, and clinging to, the naked rock, the extreme fibres dipping into the crevices, and hiding themselves amid the *detritus of the rock, decaying leaves, and other ligneous matters which are lodged there.*" We apprehend that Dr. Macculloch, and others of that school, would be at no loss to find a source of malaria, even on the declivities of Stoney Hill.

"Fort Haldane, at Port Maria, occupies the extreme point of a promontory, which projects considerably from the main land, and divides the bay into two basin-like recesses. The promontory, which is 150 feet above the sea, is about 200 feet across, is so nearly perpendicular, and so much alike in its faces, that it has the appearance of an artificial structure reared for the defence of the harbour. It is formed of a pure carbonate of lime, so white and regular as to look like a whitewashed wall; it is level, smooth, and dry on the surface; and when it was chosen as a point of defence for the construction of a fort and barracks, it was probably thought to be one of the most healthy situations in the West Indies. Merely looking at it as an elevated, regular, dry mass of limestone, washed on three sides by the sea, we should think so still; but the experience of the troops, and the sick returns, prove it to be, in every way, the reverse. So productive of fever and so deadly has it proved, that for some years past it has not been garrisoned. In November, 1824, on urgent representations by the local authorities, that troops were necessary, from apprehended insurrections of the slaves, a detachment of the 50th regiment was sent to occupy the barracks. Fever appeared among them so early, and was so destructive, that, at the expiration of six weeks, the detachment was removed, having lost, I believe, one-third of its number from fever, and the remainder mostly suffering from its effects; and this happened at a season generally healthy, to troops who had been some years in Jamaica, and who were landed in health. Two streams fall into the bay, one on each side of the headland, at about a quarter of a mile distance. *They move slowly, and their banks are covered with mangroves, which, it is to be presumed, furnish the more palpable cause of the fever; but it is remarkable, that the inhabitants of the village of Port Maria, which is situated on both sides of one of the streams, do not appear to suffer from their situation.*" 130.

There are many examples on record, similar to the above. It is by no means impossible, that those who live in the very vicinity of a source of malaria may escape, while those who are elevated above this source, and at some distance, may sustain its most deleterious influence. The current of the prevailing winds; and other circumstances, should here be carefully investigated, as miasmata may be carried towards, or descend, and become *accumulated on*, a lofty eminence, in the neighbourhood of a malarious source, while the same miasmata may never acquire a sufficient concentration in the spots which gave them birth. We believe that this explanation will apply to many unhealthy localities.

Dr. Wilson goes on to give us very interesting sketches of the medical topography of Port Royal—Port of Spain—Fort Louis in the Island of Martinique—Guadaloupe—St. Domingo—Barbadoes, and many other places, showing how very generally it happens, that high and rocky elevations in the vicinity of mangrove swamps or morasses, are ten times

more destructive to life, as the hot-beds of yellow fever, than the valleys or swamps themselves.

The author has been particularly struck with the prevalence of *lime* in all those situations, in the West Indies, which are remarkable for insalubrity, but modestly declines drawing any general conclusion as to the connexion of the one with the other. He, therefore, proceeds to what he calls the more palpable cause of yellow fever.

"This, I believe, is furnished by wood, being a gaseous product of trees and shrubs, in a state of decomposition; generally given out by them in a cut or dried state, but which may arise from a living forest, trees being capable, in different parts of their frame, of simultaneous growth and decay; and further, that wood, after it has passed from the green to the dry state, is still capable of generating the cause, certain degrees of heat and a certain quantity of moisture being supplied. I therefore believe, that decomposing vegetable matter, in a certain sense, but not in the sense generally received, furnishes the cause of West Indian fever; as it is not to herbaceous but *ligneous* matter that I trace it, and on which I shall endeavour to show its dependence." 139.

This, we conceive, is a nice distinction, and, considering that hill-fevers, wood-fevers, jungle-fevers, have been described for 20 or 30 years past, we see no great "novelty" in the opinions here emitted. Dr. Wilson goes on to prove his *ligneous* origin of yellow fever, by showing that it occurs in ships, where "marsh miasmata are not necessary to its production." Our author does not attempt to explain "what the manner of that process is, and what is the nature of its products;" but only pledges himself to prove that such febrific process does occasionally exist in ships. He objects to the supposition, that a foul hold can be the cause of the sickness—principally, it would appear, from what occurred in the Iphigenia and Rattlesnake, where the yellow fever prevailed extensively, although no foulness could be detected in their holds, and circumstances rendered it highly improbable that the disease could have arisen from terrestrial exhalations. One of the medical gentlemen appointed to examine the above-mentioned ships, and report on the cause of the sickness, was Dr. Bancroft; and it appears that the fever in question completely upset all his former writings, as to the origin of the disease!

"But Dr. Bancroft, whose labours in this field are so well known and so highly appreciated, who has collected so much information and exerted so much talent to prove, that this disease depends on earthy exhalations for its cause, as certainly as does intermittent fever, finds the whole of his elaborate and highly-finished structure sapped by the fever in the Iphigenia. He finds there a stumbling-block, which he had not expected and cannot remove, and he fairly confesses the insuperable nature of the difficulty." 151.

All the usual sources of the febrific miasm having been disproved, Dr. Wilson comes to the conclusion, "that it arises from the decomposition of the wooden materials of the ships themselves, and from such loose timber as they may contain." Dr. Wilson's arguments do not carry conviction to our minds; for we cannot imagine why the same decomposition should not go on in all climates of as high a temperature as the West Indies, which, however, is not the case. We shall offer the following quotation from his arguments.

"The extent, however, to which the process is carried, and the nature of its results, are modified by the previous condition of the wood, the degrees of heat, and, probably, by interior arrangements in individual ships. When a ship recently built arrives at the hottest season of the year, continues for weeks in harbour, and when, as happened in the Rattlesnake, the holds are cleared, and high temperature kept up in them by means of stoves, the process will be rapid and complete. The fever will appear early, and proceed rapidly; but when it ceases, it will cease finally. Men fresh from Europe entered on board such a ship, after the fever has ceased, if they avoid the cause of disease on shore, will continue as secure from West Indian fever as if they served in any other part of the world. On the other hand, when a ship arrives during the cooler months, is kept much at sea, and stoves are not let down into the holds, the process will often be slow and imperfect: in some cases it may never take place. In such ships there will not be severe and sweeping visitations of fever; but then there will never be security. Men will continue to fall under the influence of the disease, till the last day of the ship's term of service on the station. These things are frequently exemplified in different ships in the West Indies." 154.

It is acknowledged by all, that mangrove banks and shores are peculiarly productive of the cause of fever, wherever they are found. The following description of the mangrove production and decay is certainly favourable to the *ligneous* doctrine.

"The mangrove grows and runs to decay rapidly. The branches, after rising a few feet, bend towards the root, on which they engraft themselves; from the bow thus formed other branches spring up, which, in like manner, insert their extremities into different parts of that from which they grow, and so on, till an impenetrable dwarf forest is spread over the surface of the water. While the lower part of this *water forest* is undergoing rapid decomposition, the upper part is in a state of luxuriant growth and beautiful verdure, so that the appearance of the whole is singular and striking: it looks like a piece of basket-work supporting a shrubbery. From its structure and habits, the mangrove appears destined to speedy decay, to which surrounding circumstances are highly favourable. In consequence of the rise and fall of the tides, part of it is alternately wet and dry, and the whole is exposed to the influence of high temperature; hence, whatever

deleterious product is furnished by decomposing wood, must be furnished abundantly here." 164.

MEMOIR THE FOURTH.

We must pass over this memoir, without being able to offer any specimens from the work. The question is, whether the yellow fever of the West Indies is a disease of a peculiar character—one, in fact, *sui generis*, or merely an aggravated form of the usual epidemics and endemics, the bilious remittent and intermittent fevers? Dr. Wilson is clearly of opinion that the latter supposition is false—and that the disease "arises directly and solely from inanimate matter close to the persons whom it affects, and is as incapable of being produced by any other agency as ague or goitre." He cannot, however, subscribe to the doctrine, that it is a mere aggravation of intermittent fever. The author adduces numerous and very powerful arguments in support of his opinions, and these should be consulted by all who are destined for the West Indies.

FIFTH MEMOIR.

This memoir is on a subject nearly as obscure as the hitherto inscrutable miasma of yellow fever—namely, the *modus operandi* of this cause on the human frame. The difficulty of this investigation may be easily imagined, when we consider that we are called upon to trace the action of a thing *totally unknown* on functions of which we know *exceedingly little*. All we can do, in the present state of things, we believe, is to accurately note the obvious phenomena which follow the application of this incognizable miasma, without attempting much of the rationale of its operation on the living machine.

After re-enumerating the symptoms of the *apoplectic* or congestive species of yellow fever, Dr. W. asks—"is there not here debility in the strictest sense of the word; and is it not positive and direct, rather than secondary and apparent?" He then goes on to observe, that this debility cannot result from any direct agency of the cause of fever on the *vascular* system; but through the medium of the *nervous* system. We agree with Dr. Wilson—and have to remind him that this was the view taken of it by Cullen, and by many writers before Cullen:—it *is* the view of it which is now taken by all the best writers and the most accurate observers. The following passage will convey some idea of Dr. Wilson's views of the *modus agendi* of the febrific miasm.

"It is probable that in some cases the nervous power is *abstracted*, in others only *obstructed*.

"The first condition is induced, I believe, in pure congestive fever, (for a certain degree of congestion happens in all,) and the extent of congestion is commensurate with the quantity of *abstraction*. In the worst form of congestive fever, it would appear that the nervous power is so completely withdrawn, and receives so little supply, as to be unequal to the carrying on of the functions of life; that it is so subverted, as to be unsusceptible of repair, and that death is the effect of direct exhaustion, and consequent stagnation. In the slighter forms, it appears, though the nervous power is *abstracted* to a certain extent, that sufficient remains to supply sensation, and *something* essential to vital action, till, in favourable circumstances, the loss is repaired, and derangement appears chiefly in the vascular system.

"On the other hand, when the nervous power is only *obstructed* by the febrile cause, the inflammatory form of fever will follow, the force of inflammatory action being proportioned to the extent and duration of the *obstruction*. In this form of the disease, as in the other, the first step of derangement in the vascular system will be congestive, but greatly different in its nature and results. Here, as soon as the cause of *obstruction* is exhausted, or rather perhaps arrested, by some inherent power of the living body, reaction takes place, various in degree in various instances; in some rising to the most intense inflammation, destroying organs essential to life, by a process somewhat like gangrene, in others proceeding, with less violence, to a regular issue in suppuration, and in others affecting chiefly the investments of viscera, and with tendency to terminate in effusions of serum and coagulating lymph." 201.

We do not clearly understand what is meant to be conveyed by the term *abstraction* of the nervous power. The fumes of charcoal—a certain dose of prussic acid—a concussion of the brain—the ablation of a limb by a cannon ball—nay, a powerful mental impression will *arrest* more or less completely the supply of nervous power from the sensorium to the heart and all other organs of the body, occasioning most of the phenomena produced by a great dose of the febrific miasm in a concentrated state, as seen in the apoplectic species of yellow fever. This, we imagine, is as good an illustration of the *modus agendi* of the cause of yellow fever as we can have—and it points out the danger of incautiously abstracting blood in such a condition of the system, as forcibly as any thing can do. The reaction which follows is generally proportionate to the depression that precedes. If reaction do *not* follow at all, Dr. W. seems to call this *abstraction* of the nervous power. If reaction succeed, then it was only *obstruction* of the same. The following passage is interesting, whatever we may think of the explanation which is attempted to be given.

"I have seen a remarkably stout young man, of sanguine temperament, labouring under the first impression of fever, which literally struck him down in an instant. With a rapid, weak, irregular pulse, sunk eye, haggard countenance, and cold skin, he lay prostrate in great distress, but incapable of describing his sensations. There were languor and feebleness, which he tried in vain to resist; confusion of thoughts; tremors, not like

the rigour of intermittent fever, but an affection like that which arises from alarm; a feeling of extreme, but unspeakable suffering, extending from the spine to the umbilicus, involving the abdominal contents in tumult; and a state of the skin in which reduction of temperature was not the most striking, though most easily defined, deviation from that of health. When the hand was applied to the surface, there was communicated a sensation, similar to that which is experienced by touching the scalp, when separated from the subjacent muscles, a sensation of want of vital connexion with the parts beneath. And yet in two hours all those signs of diminished vitality had disappeared, and the most furious inflammatory action followed. The case was a fatal one. Blood-letting and other means of reduction were urged to the uttermost, without making more than momentary impression on the disease. The force of the circulation was for an instant abated, and then rose again to the height of its former violence; and thus, over and over again, till the structure of the brain was subverted.

"Now, in contemplating such a case, we are first of all struck with the two great stages into which it is divided, and then with the necessary connexion between them. In the first we see the nervous power *obstructed*, or suspended in its operation, not arrested in its source or abstracted from the system; and, in the second, we observe, when the suspending or *obstructing* cause is removed, the force accumulated by inaction and continued supply, poured forth with irresistible impetus, and giving rise to such intensity of inflammatory action, as puts to defiance all our means of staying its course. At least, in comparing the two phases of the disease, the subsidence of its first, and the rising of its second stage, the conviction is forced upon us, that they are not fortuitous and inconsequential, but are necessarily connected the one with the other, as cause is with effect; and moreover, that in the origin and progress of this disease, there is something essentially different from what happens in congestive fever.

"*There* we observe, as in the first stage of this, failure of nervous, and feebleness of vascular power, but of a much deeper and more enduring character. In the inflammatory form of fever, the stage of exhaustion, connected with nervous *obstruction*, is always short, sometimes imperceptible, or rather, in the common routine of complaint and inquiry, it is not perceived. But in the congestive form, arising from the *abstraction* of nervous power, the exhaustion lasts long, in the worst forms, till the last. There is, analogous to what happens in inflammatory fever, failure of nervous power and vital action; but, unlike what happens in that form of the disease, the reparation is slow and scanty, or altogether wanting. In some there is no supply consequent on *abstraction*, in others there is supply, but it is always slow in accession, often inadequate in quantity. It is, when compared with the overflowing energy of inflammatory fever, as a summer brook to the force and celerity of the Ganges." 203.

We have greatly overstepped our intended limits—led on by the interest of the subject, and the talent and observation displayed by the author of the work under review. The minute and accurate details of medical topography—the forcible and faithful delineations of fever in its various forms between the Tropics—the ingenious speculations on its etiology—the rational modes of practice inculcated—and the extremely important suggestions as to prevention, which Dr. Wilson has presented to the public in a small and modest octavo, are so highly creditable to the author, that he has deserved, and will obtain, an elevated niche in the temple of medical fame. Were we destined once more to visit the Western Tropics, and obliged to limit our library to *a single volume*, we should have little hesitation in taking with us the five memoirs of Dr. John Wilson.

From the Philosophical Magazine.

ON THE MEANS OF ASCERTAINING THE PURITY OF SULPHATE OF QUINA. By R. Phillips, F.R.S. L.&E.&c.

The great demand which has arisen for this important medicine, and the high price at which it is necessarily sold, have excited some, who are careless as to the means by which they acquire gain, to sophisticate it in a vast number of ways, and by every means which talent misapplied could suggest.

Having repeatedly of late been requested to examine various samples of sulphate of quina, I thought it might be useful to state the several modes which may be employed for that purpose: and I make the present communication with the greater confidence, because I have received the very able assistance of my friend Mr. John T. Barry, of Lombard-street, to whose chemical skill, and the opportunity of frequently applying it, I am indebted for the greater number of hints and facts detailed in this paper.

Pure sulphate of quina has the form of minute fibrous crystals, it is inodorous, and its taste is bitter. If certain vegetable products, such as starch or sugar, be mechanically mixed with it, they may possibly be observed by merely inspecting the preparation with a glass.

1st. If the sulphate of quina be mixed with a considerable proportion of foreign matter, it may probably be detected by dissolving the salt in question in about three hundred times its weight in water,—say one grain in about five fluid drams of boiling distilled water. On cooling, pure sulphate of quina will be deposited in feathery crystals in twenty-four hours, if there be no adulteration.

2dly. As indirect, but as good collateral evidence, the taste of sulphate of quina of known good quality may be compared with that of another sample. Thus when pure, a grain of sulphate of quina will render nearly a

pound and a half of water, or 10,500 grains, sensibly bitter.

3dly. The alkalies either pure or their carbonates, if but slightly in excess, always occasion precipitation at ordinary temperatures in a solution of sulphate of quina containing only 1-1000dth of its weight, or less than one grain in two fluid ounces of water.

4thly. A solution of tannin occasions a very sensible precipitate in an aqueous solution of sulphate of quina, containing only 1-10,000dth of its weight of the salt, provided there be no acid in excess. Kino is that form of tannin which best answers the purpose. It is however to be observed, that the salts of morphia, cinchonia, strychnia, &c. are similarly affected by tannin; but they are not likely to be mixed with sulphate of quina.

5thly. Sulphate of quina suspected to contain sugar, gum, or other substances soluble in cold water, may be tried by digesting the same portion of the salt in small and successive portions of water to saturation. If the sulphate of quina be pure, and the solutions all properly saturated, they will have the same taste and specific gravity; and similar portions will yield by evaporation equal quantities of solid residuum.

6thly. A repetition of the above process, substituting alcohol for water, answers for extracting resin and some other substances, because sulphate of quina is soluble in alcohol to only a limited extent.

7thly. If a white substance insoluble in cold water be found in the sulphate of quina, heat the mixture to about 170° of Fahrenheit. This will render starch soluble, and its presence may be determined by the addition of an aqueous solution of iodine, which will immediately occasion a blue colour, and eventually a blue precipitate. The iodine should be added in very small quantity.

8thly. Sulphate of quina has been adulterated with ammoniacal salts. These are rendered obvious by adding a little of the suspected salt to a solution of potash. If any ammoniacal salt be present, ammoniacal gas will be readily detected, either by the smell, or by holding over the mixture a piece of turmeric paper, or a bit of glass moistened with acetic acid.

9thly. To ascertain whether sulphate of quina contains any earthy salts, such as sulphate of magnesia or sulphate of lime; burn a portion of it in a silver or platina crucible, or even in a clean tobacco-pipe. Any earthy salt, or any matter indestructible by heat, will of course remain in the vessel.

10thly. To ascertain that the sulphate of quina contains the proper quantity of sulphuric acid and quina, dissolve a little in pure muriatic or nitric acid, and add a solution of muriate or nitrate of barytes: 60 parts should give about 17.3 to 17.4 of sulphate of barytes; or the method may be varied without the trouble of drying the precipitate. Dissolve 60 grains of sulphate of quina in water slightly acidulated with muriatic or nitric acid; add a solution of 18 grains of nitrate of barytes, and separate the precipitated sulphate of barytes by filtering. If nitrate of barytes be now added to the clear solution, it should still occasion slight precipitation, for 60 of sulphate of quina contain 5.8 gr. of sulphuric acid, equivalent to 19.1 of nitrate of barytes.

This test is only to determine that there is no crystallized vegetable matter uncombined with sulphuric acid in the sulphate of quina; the detection of earthy or alkaline sulphates has already been provided for.

11thly. Sulphate of quina should lose not more than from 8 to 10 per cent. of water by being heated till deprived of its water of crystallization. Mr. Barry informs me that he once examined a sample which contained more than 40 per cent. of water in excess diffused through it.

From the London Medical Repository.

CASES OF PHYSCONIA HEPATICA, *and Physconia Splenica, successfully Treated with Iodine, at the Royal Universal Infirmary for Children.* By William Milligan, M. D. Physician to the Middlesex General Infirmary, and to the Royal Infirmary for Children.

Case 1.—Henry Baynes, æt. five years and five months, of a slight figure and scrofulous diathesis. Admitted a patient at the Royal Universal Infirmary for Children, August 25th. Complains of a tumour occupying the right hypochondrium, extending anteriorly in a line with the linea alba, and inferiorly to the superior part of the hypogastric region. It is firm, colourless, it pushes out the false ribs considerably, and is attended with shooting pains occasionally. Pulse regular; skin cool; bowels open twice a day; stools of a brownish colour; tongue red at tip and edges, but moist; appetite pretty good; sleeps well; perspires a good deal at night, and passes his urine in bed. His mother reports that his health has been always bad, and that at seven months old he was threatened with water on the brain. She first perceived the tumour six months since, which has gradually increased to its present size. He has been under the care of several medical men, and has used mercury for it.—℞ Tinct. iodinæ, gutt. xlviij.; aquæ fontanæ, ℥vss.; sirupi simplicis, ℥ss. Capiat cochl. amplum nocte maneque.

August 28th.—Shooting pains removed; tumour appears a little diminished; pulse regular; appetite better; bowels open twice a-day; stools of a dark brown colour.—℞ Hydr. submur. sub. gr. ij.; rhei. pulv. gr. iv. M. fiat pulvis statim sumendus. Repetr. mistura tinct. iodinæ.

September 18th.—Tumour continues to diminish; general health improves; has ceased to pass his urine in bed.—Cont. mistura tinct. iodinæ.

22d.—Complains of cough; heaviness of the head, and running from the nose, has lately caught cold; pulse quick and hard; bowels open; skin hot and dry.—Intermitt. mistura iodinæ. ℞ Rhæi pulv. gr. vj.; magnesiæ, gr. v.;

cinnamomi pulv. gr. ij. M. detur statim.; capt. mistæ. diaphoret. ℥iij. 4tis. horis.; pediluvium.

October 16th.—Cough removed; general health much improved; pulse 120, soft; tongue clean; bowels open; tumour decreases gradually; no pain in the right side; appetite very good.—Reptr. mistura tinct. iodinæ ut ultimo.

30th.—No cough; no pain; pulse regular; skin cool; tumour diminishing; appetite good; bowels confined.—Reptr. pulv. rhæi et magnesiæ ut ultimo.

November 3d.—Tumour much softer, and continues to diminish in size; appetite good; sleeps well; pulse regular; skin cool; tongue clean and moist; bowels open.—℞. Cascarillæ pulv. gr. v.; ferri tartarizati, gr. iv. M. habeat xij. tales. capiat unam ter die.

6th.—Has wetted his bed once since last report; other symptoms improving.—Repetr. pulveres.

9th.—Bowels confined; appetite bad; pulse regular; skin cool; has not wetted his bed since last report.—Capt. mistæ. aper. ℥ss. 4tis horis ad alvi solut.

12th.—Bowels open five or six times by the aperient medicine; pulse regular; skin cool; has not wetted his bed; no tumours perceptible by pressure on the soft parts.—Repetantur pulveres tonici.

16.—No tumour felt on examination of the soft parts of the abdomen; the false ribs still project, but general health is entirely restored. Discharged cured.

Case 2.—Elizabeth Howard, æt. 20 months. June 19th.—Was admitted a patient at the Universal Infirmary for Children, last week, for tertian ague, at the same time with her brother, who laboured under the same disease. Mr. Woodham, the house surgeon, saw them, and prescribed some bark, which has removed the intermittent.

A large tumour is perceptible in the left hypochondrium, extending to the linea alba anteriorly, and lower part of the iliac region inferiorly.

Her mother observed this swelling commence about eight months since, after an attack of ague, and it has gradually acquired its present size; pulse small and weak; appetite bad; no thirst; five stools yesterday, of a dark green colour.—℞. Pulv. aper. gr. iv. Capiat statim. Capt. mistæ. aperient. ℥ij. 4tis horis ad alvi solutionem, incipiens post horas duas. ℞. Linim. hydrarg. ℥ss.; olei olivæ, ℥j. M. fiat linimentum M.D. applicandum.

26th.—Aperient medicine produced several green stools with lumps of whitish fatty matter, about the size of a hazel nut; bowels now open twice a-day; stools of a yellow colour; appetite a little better; a slight cough; pulse regular; tumour appears somewhat softer.—Contr. linimentum. ℞. Ipecac. cum calomelane gr. iij. Fiat pulvis. habt. sex tales, detur una omni nocte.

August 18th.—The liniment was continued, and mercury given internally, with little intermission, up to this period, without any improvement in the tumour; I determined on giving the tincture of iodine.—℞. Tinct. iodinæ, gutt. xiij.; aquæ fontanæ, ℥iss.; syrupi simpl. ℥ss. Dentur cochl. duo min. nocte maneque.

25th.—Tumour considerably diminished in size and become softer; pulse regular; skin cool; tongue clean and moist; appetite better; bowels open twice daily; stools of a yellow colour.—Repetr. mistura.

September 1st.—Tumour reduced to a very small size and feels soft; has frequent, pale, yellow stools; pulse regular; skin cool.—℞. Olei ricini, ℥ss.; aquæ cassiæ, ℥ij.; tinct. opii. gutt. j. M. ft. haustus statim dandus.; semicupium vespere.; interm. mistura tinct iodinæ.

4th.—Tumour continues to diminish; two stools daily, of a yellow natural appearance; pulse regular; skin cool; appetite very good.—Repetr. mistura iodinæ ut ultimo.

11th.—The enlargement of the spleen has almost disappeared, but another tumour is felt in the pubic region; the margins of which are altogether unconnected with the spleen; this seems to depend on some mesenteric glands being very much enlarged.—Repetr. mistura; augenda dosem add gutt. iv. bis die.

18th.—Tumour in pubic region diminishes; general health very good.—Repetr. mistura; augenda dosem ad gutt. v. bis die.

22d.—Both tumours removed; general health continues good.—Repetr. mistura.

26th.—Quite well. Discharged cured.

Case 3.—David Brewer, æt. 17 months. June 19. His mother applied for some medicine for a cough which he laboured under. On examining the abdomen, a very large firm tumour was discovered, occupying the left hypochondriac region, extending to the umbilicus and lower part of the iliac region. She has observed his abdomen become gradually enlarged since he was six months old; pulse 130; skin hot; appetite pretty good; bowels confined; last stools dark coloured.—℞. Rhei pulv. gr. iv.; hydrarg. submur. sub. gr. ij. Misce fiat pulvis statim sumendus. ℞. Mist. aperient. ℥iv. Capt. cochl. duo min. 4tis. horis, ad alvi solutionem. ℞. Linim. hydrargyr. ℥ss.; olei olivæ, ℥j. M. ft. liniment. parti tumefactæ applicandum. Capt. ipeca. cum calomelane, gr. iss. o. n.

26th.—Tumour neither diminished in size nor become softer. Aperient medicine brought away several dark coloured consistent stools; cough less; fever less.—Repetr. pulvis et mistura aperient. linimentum et pulv. ipecac. cum calomelane.

September 11th.—Calomel, in small doses, and the mercurial liniment were continued up to this period, with little alteration in the tumour.—℞. Infusi Quassiæ, ℥iv.; tinct. iodinæ, gutt. xxxij. M. dentur cochla. duo min. nocte maneque.

18th.—Tumour diminished, and softer; general health improved.—Repetr. mistura.

25th.—Tumour diminishes daily; it is now but little apparent, after a careful examination of the soft parts; general health good.—Contr. medicamenta.

October 2d.—Tumour has entirely disap-

peared; general health good. Discharged cured.

In the cases above related, enormous enlargements of the liver and spleen were speedily removed by iodine, given internally, in the form of tincture, after mercury had been given without success. The general health of all the children improved under its use; and in the case No. 1, incontinence of urine, of long standing, was cured by it.

Iodine appears to possess considerable tonic powers; being a still more powerful stimulant than mercury. It acts as a stimulus to every sensible and moving fibre of the body. In the chronic inflammation particularly, which affects the glandular organs, it is a powerful remedy in counteracting it, and in removing that state of morbid structure which is often its consequence.

Like other powerful remedies, it may, no doubt, be abused; this, however, is no argument against its properties. Its administration requires to be conducted with much care, being occasionally intermitted, and not persisted in; and immediately relinquished if it occasion nausea or purging, vertigo or headach, which are the only bad effects I have observed from its use. When administered to females, its effects should be well watched; as cases are recorded where the mammæ have been entirely absorbed during its long continued use. But where the removal of a dangerous disease becomes paramount to every other consideration, as in cases of an enlarged thyroid gland pressing on the trachea and threatening suffocation; and other enlargements, particularly of the scrofulous kind, which other remedies have failed to relieve, the symmetry of the female must become a secondary consideration, and leave little doubt of the propriety of having recourse to iodine. Its good effects, in these cases of very young children just related, go to establish the safety and propriety of the remedy, and afford striking proofs of the advantage to be derived from it.

From the London Medical Repository.

REMARKS ON THE SAFE REMOVAL OF THE PLACENTA IN CERTAIN RARE CASES OF OBSTRUCTION. By Edward Thompson, Esq. Surgeon, Whitehaven.

The removal of the placenta is a measure which the accoucher has occasion to resort to in certain cases of morbid adhesion of the mass, or non-contraction of the uterus itself. Where the labour is well conducted, such an operation is less frequently required; irregular contraction being oftentimes produced by unnecessary haste or impatient interference. Art is called upon in certain instances, however, to do what the natural efforts are not capable of accomplishing; and which, if entirely trusted to, would lead to danger and death. The different causes of retention have been so particularly noticed, that there is little room, perhaps, for conjecture or improvement; but there are minute practical suggestions which individuals have it in their power occasionally to record, which either have been mentioned and not attended to, or not observed before. These, although they may at first sight appear trivial, lead sometimes to important results; as life may be endangered by a slight omission, or the comforts of existence so much abridged by the superinduction of an unnatural displacement, as to make it not desirable.

The right management of the placenta requires more tact in certain instances than the labour itself; and, therefore, every variety of obstruction deserves our particular attention. Simple cases of adhesion of the mass point out the means of remedy; but when attachment is accompanied with circumstances tending to mislead, although the occurrence may be extremely rare, still, as constituting a variety, and that proving an exception to a rule which is not allowed to admit of one, deserves recording. According to authors and lectures, when the placenta falls down so far into the vagina that not only the funis, but the whole circular edge of the cake can be distinctly felt, the mass is external to the uterus, and may, either by the cord, or otherwise, be pulled away. Although their appearances may, in most instances, be correct as respects the total exclusion of the placenta from the uterus, and its hasty removal be productive of no harm, the majority of cases, I can aver, from my own knowledge and practice, cannot be pursued with safety in all; and that, notwithstanding the placenta can be so distinguished, it is no proof of the unattached state of the after-birth to the uterus; and that therefore its forcible abstraction, from an idea that it lies lower in the vagina, may be attended with hazard. The placenta, from whatever cause, becomes frequently altered in structure, being met with in all states of firmness and fragility. Its substance is occasionally so altered as to admit of extension to a great degree, without suffering disrupture. This condition of the placenta I have several times met with, and when it does obtain, it is generally connected firmly to the uterus, in one part or other of its surface. I have not observed that the whole of the placenta is in this unnatural state; the diseased structure alternates with healthy substance; bands of matter similar to ligaments, radiating from a lobe or two, on the face of the cake, which, if examined, will be found hard, elastic and ligamentous. These portions I have found so fixed to the uterus, as almost to appear to be one with it, requiring the greatest care to separate, without entailing injury on the latter organ.

The attachment of the placenta, such as described, I have never known extensive; and it is from this circumstance that deception arises. The diseased substance being so extensible, readily allows the uterus to press the unattached part of it into the vagina; and on examination, the whole of the placenta appears to be detached when a portion still remains, probably adhering to the fundus uteri.

It is very evident, if the directions be acted up to, as taught in the schools, that should a case of placenta so diseased present itself to the incautious, inversion of the uterus would be the consequence. I do not know that this has ever happened; but I know that it may, under such circumstances.

There is a condition of the placenta where it is in part protruded from the uterus, a third or more of it remaining adherent. This has been often described, but it differs materially from the kind of attachment above alluded to. Although the placenta in this case is in a great measure in the vagina, the edge of it cannot be traced distinctly by the finger, a part of it being retained in the uterus. This holds out no grounds for deception, the placenta can, by the most careless examiner, readily be distinguished to be but partly expelled. In the other it cannot. I was requested, in December, 1820, to see a woman who had been delivered by an experienced and cautious midwife. She had fainted about an hour after delivery, and was said to be very ill; and on inquiring of Mrs. N—, the midwife, I found that the placenta had come down into the vagina, but from thence she could not extract it by cautious efforts. It was fully in the vagina, judging from the usual appearance. On applying my hand to the uterus, I felt it greatly distended; and supposing that internal hæmorrhage was taking place, the languor and faintness being great, I without more to do introduced my hand into the uterus, and brought away the placenta with some difficulty, which was greatly elongated, and attached high up. There was a large collection of blood in the uterus, which had collected in consequence of the vagina having been plugged up by the cake, which was of a firm and elastic nature. The placenta was removed an hour and a half after delivery. The woman did well.

So low down in the vagina, and distinctly defined was the placenta, that little more seemed required than to hook it away. It was well that caution was practised, and that no such proceeding was entered upon; had it been done in the existing state of the uterus, dilated as it was by coagula, inversion would have certainly ensued. As it was, the woman had nearly died from internal hæmorrhage; and had the placenta been left in the vagina till its expulsion had been assisted by contraction of the uterus, as some recommend, it might have been left there till her death. I have lately attended another case, in which the placenta descended, apparently, totally into the vagina, the cord being readily traced to its root, and the whole edge of the cake clearly ascertained to be external to the uterus; but as I did not find it yield to force, supposed sufficient to free it from contraction of the vagina, which oftentimes acts on the placenta, I passed my hand, after waiting a reasonable time, into the uterus, which was felt externally to be the usual size, and succeeded, after some effort, in separating a small portion of the placenta in a diseased state, elongated many inches, and attached firmly to the fundus uteri. The case did well. On examining the mass, it was found pervaded with portions of elastic substance, firm and whitish, giving the whole such consistency as to make it difficult to tear.

These are facts that may be depended upon, and show that the uterus may be exposed to inversion, and other consequences ensue from the forcible abstraction of the placenta, although it be distinctly felt in the vagina; and prove that the rule is subject to exception, and if followed to the letter, pregnant with danger; which goes to say, that "if the mass be found by the finger protruded down into the vagina—if the insertion of the funis into its substance can be distinctly felt—if the finger can trace the boundaries of the mass—if at the same time the uterus be felt firm and small, little doubt can remain of the complete detachment of the placenta, and of its expulsion. In such a case, it may be withdrawn at pleasure by the funis."

From the Lancet.

ANATOMICAL RESEARCHES ON THE EPITHELIUM, OR INTERNAL EPIDERMIS. By M. Lelut.*

It has long been disputed by anatomists, whether the surfaces of the mucous membranes, in the interior of the body, are, or are not, covered by a structure, similar in most of its characters to the enveloping texture of the external surfaces, usually called the *epidermis*. Some have admitted that there is such a covering, and have argued that it proceeds but a little way into the interior of the alimentary tube, and other cavities communicating with the external surfaces of the body; but the extent of this covering has not, hitherto, been very accurately defined. The anatomists of the present day, who have admitted the existence of such a tissue, (here, by way of distinction from the epidermis, called the *epithelium*,) have done so rather from analogy than from demonstrative evidence; founding their reasonings upon the axiom laid down by Bichat, but which it seems he copied from Bonn,† that all the mucous membranes are only a duplicature of the skin in the interior of the animal; and, therefore, that it must, *par consequence*, be furnished with a sort of cuticle, or epithelium. Others have imagined that they have recognised it only in certain points, thus admitting an infraction of the law of continuity of the two teguments, without having been able to point out with certainty the places where it exists, and where it does not exist.

Albinus‡ admitted the existence of the epithelium on the tongue, which he knew

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* Repertoire d'Anatomie, tom. 3. trimestre 2.

† Andreas Bonn, Dissertatio de continuationibus membranarum, t. ii.

‡ Annotationes academ. T. L. Lib. 1. xii.

was continued from the epidermis; but he does not speak of it as extending to the fauces. Bonn went further than Albinus; he states, that he had traced it as covering the entire buccal cavity and the pharynx; but he did not recognise it as extending lower. Haller* admits the existence of the epidermis on all the mucous membranes without exception; he appears to have regarded the internal or villous membranes of the stomach, as a continuation of the epithelium of the œsophagus. But Morgagni,† not content with admitting its existence to this extent, asserts that it not only lines all the great visceral cavities, but also the smallest canals; as, for example, the lachrymal passages, the Eustachian tubes, the parotid ducts, and the mucous follicles. Chaussier,‡ who was acquainted with the arrangement of the epithelium in the œsophagus and stomach of the horse, appears to think that the mucous membrane of the alimentary canal, below the diaphragm, is not a continuation of that of the œsophagus. H. Cloquet has adopted this opinion. Bichat did not think it possible to show the existence of the epidermis on the surfaces of the mucous membrane of the stomach, the intestines, the bladder, and the excretory ducts. Meckel considers that the epithelium cannot be traced below the cardiac opening of the stomach. Beclard was of the same opinion; but he says that it might be traced in the vagina as far as the orifice of the uterus, where it ceased. Such appear to be the principal conclusions arrived at by some of the most distinguished anatomists, respecting the distribution of this structure.

In addition to the ordinary modes of dissection, I had recourse to dissection with a finely cutting instrument, to maceration, to desiccation on a plate of glass, to immersion in diluted acid, and in a weak solution of corrosive sublimate, to coction in boiling water. These two last modes I found to succeed best, but I often dissected the parts under water as well as out of water. In my examination of the structure of the superficial part of the alimentary tube, and of the cavities into which it is continued, I almost always dissected all the tunics of the part, so as not to be deceived by any false analogies, and when the epithelium was exposed, I immediately submitted it to the action of the chemical agents which I have just mentioned. In this way I examined the internal surface of all the mucous membranes, without exception; and am, therefore, able to state, with some degree of certainty, in what parts the epithelium is present, and in which it is wanting.

The epithelium, or internal epidermis, exists only on the gastro-pulmonary mucous membranes, on the genito-urinary, and on the mammary. The external auditory canal is lined with epidermis.

It would appear from these investigations, that the epithelium extends no further than the cardia. I have constantly found four membranes in the stomach and bowels, a mucous, a cellular, a muscular, and a peritoneal; and I have found nothing more. All the other modes of dissection which I employed for the examination of the epithelium, above the cardia, served to convince me that it *does not exist below the diaphragm.*

The epidermis, or the skin of the eye-lids, ceases at their anterior free edge, immediately behind the cilia, which appear to perforate it. Beyond this point the palpebral and ocular conjunctiva present nothing which resembles it; nor could I find any thing analogous to it in the lachrymal passages. The epidermis of the skin of the nose ceases, in fact, about two or three lines in front of the edge of the anterior opening of the nostrils; but in adults, at about the distance of seven or eight lines. This termination is rather abrupt; but beyond that point it presents nothing which can be said to resemble the epithelium.

The mucous membrane of the Eustachian tube appears to want the epithelium at its orifice; but to have that structure continued in the remainder of its course. The cutaneous epidermis, ceases suddenly at the nasal, anal, and ocular fissures, and is continued from the mouth as far as the cardiac opening of the stomach. There is no epithelium on the conjunctiva or its dependencies; nor on the nasal, or anal mucous membranes.

The epithelium does not exist on the mucous membrane of the urinary organs; it exists only on the mucous membrane of the genital organs of women, not of men, extending as far as the orifice of the uterus, and is a direct continuation of the epidermis from the vulva.

Investigations on so delicate and minute a structure as the epithelium, must necessarily be attended with considerable difficulty; and with whatever skill or care they be conducted, the results of such investigations should be received with considerable caution. M. Lelut denies the existence of the epithelium on the inner surface of the stomach and intestines; Professor Rudolphi holds a contrary opinion: the former asserts, that it is wanting on the mucous membrane of the urinary organs, the latter that he has been enabled to trace it on these parts. Fortunately, however, for mankind, the importance of the subject is scarcely proportioned to its difficulty.

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* Elementa Physiologiæ Corporis Humani, tom. v. lxii. sect. 1. p. 12. et seq.

† Prodromo della grand' Anatomia. Firenze, 1819.

‡ Journal General de Medicine de Sedillot, tom. xv. p. 33.

From the Lancet.

MEDULLARY SARCOMA.

Medico-Chirurgical Society.

B. Travers, Esq., President, in the Chair.

The particulars of a case of "medullary sarcoma, with hydrothorax," which recently

occurred in the practice of Mr. Travers, were detailed to the society.

The patient, a middle-aged athletic man, after an imprudent exposure to cold, was affected with uneasiness in the right hypochondriac region; at first, however, so trivial, that it was deemed to be merely a slight hepatic affection; but in a short time the symptoms assumed an alarming aspect, the right side of the chest obviously became greatly enlarged and distended, and there was dyspnœa to the most distressing degree, with violent palpitation of the heart. When Mr. Travers saw the patient it was apparent that an accumulation of fluid had taken place in the right side of the chest to a very considerable extent; in consequence, the operation of paracentesis thoracis was resorted to, and about ten pints of serum were drawn off, dark coloured, but perfectly homogeneous. Some relief was afforded by the abstraction of the fluid, and also by the free exhibition of the liquor opii sedavitus, digitalis having been previously given without benefit: upon the whole, the patient was so far improved, that an attempt was made to bring him to London (a distance of eighty miles) by easy stages, but he died on the journey. The period of his illness was three weeks only; a few days before this time, he was apparently so healthy and vigorous, that he tired two men in a day's shooting. Nine months previously, he had complained of slight uneasiness on the right side, and four years before, had had a tumour removed from the thigh, of a medullary character.

On a post-mortem examination of the body, about a gallon of fluid, of a straw colour, was drawn from the chest, the abdominal viscera were found to be healthy, but the stomach was greatly distended with gas. The diaphragm was seen lying in loose folds, the heart was completely pushed to the left side, and the left lung was condensed, pressed almost flat, and intimately adherent to the parietes of the thorax. The right pleural sac was so much enlarged, that it occupied at least three-fourths of the chest; the pleura pulmonalis was studded with medullary tubercles of various sizes; there were also some coagula of blood in the sac, with portions of false membrane. At the upper part of the chest, lying upon the œsophagus and bronchi, was a medullary tumour, weighing at least three pounds, and consisting of brain-like matter externally, with grumous blood in the centre, having, in fact, all the characteristics of fungus hæmatodes. Owing to the compression of the tumour, the inferior lobe of the right lung was the only respirable portion; the fungoid disease, however, had not extended into the pulmonic substance. From the lower part of the cicatrix in the thigh, whence the medullary tumour had been removed four years before death, Mr. Travers took away a small substance, possessing the characters of medullary disease.

A case somewhat of a similar description to the foregoing, communicated by Dr. Hewett to Mr. Travers, was also related. The medullary tumour, in this case, was on the left side of the thorax, and was of about the size of an orange; there were fungoid tubera on the *outer* side of the pleura costalis, there had been extensive serous effusion into the thorax, and the operation of tapping had been performed. As in the former case also, the substance of the lungs, although suffering compression from the effused fluid, was not affected with the *malignant* disease.

In commenting upon the first case, Mr. Travers observed, that it well illustrated the disposition of fungoid disease to invade the different textures of the body; passing out of the line of the absorbents, it had first attacked *cellular* tissue, (in the thigh,) and then invaded a *serous* membrane at a remote part (the pleura.) Mr. Travers proposed, as a question to the society, whether it had occurred to any of the members, to meet with a case of "pure hydrothorax"—that is to say, a case in which there was no morbid change in the lungs.

Mr. Lawrence spoke at considerable length; he said, that he believed there was no such case as simple hydrothorax, that the effusion of serum was always the result or effect of some organic alteration; and consequently, that the operation of drawing off the fluid could only be regarded at best but as a palliative measure. He thought that the quantity of fluid effused in Mr. Travers' case, and also in Dr. Hewett's, clearly evidenced that extensive organic disease existed within the chest, and so far, was of importance as regarded the diagnosis. He did not concur with Mr. Travers in the opinion, that the disease was of much longer duration than the three weeks acute illness of the patient, for it had been said, that previously to that period, he had taken very laborious exercise in field sports, which could scarcely have taken place had disease existed in the chest. Mr. Lawrence was of opinion that the disease might have commenced and run its progress, even in the space of three weeks; for, he observed, that the rapidity with which fungus hæmatodes pursued its course, is a prominent diagnostic feature, and in confirmation of this, he related a case occurring at the head of the tibia in a patient 22 years of age. The affection came on about Christmas, and had so far extended, that early in the month of April it was necessary to amputate the limb; six days after the operation, ulceration of the artery ensued, and the case proved fatal from hæmorrhage. Upon examining the limb, it was found that two-thirds of the head of the bone were destroyed, the surrounding muscular texture was implicated, and a tubercle was found in the liver.

With respect to the displacement of the heart, as observable in Mr. Travers' case, Mr. Lawrence remarked, that although the heart is most frequently displaced gradually, yet it may occur also suddenly. He had met with a case of this nature, in a boy 15 years of age, who was brought to St. Bartholomew's on account of having been severely crushed at the

chest; on the day after admission, the heart was felt beating violently on the right side, and not distinguishable on the left side. The peculiarity was so very striking, and existing as it did without any apparent cause, that Mr. Lawrence was at first disposed to attribute it to some connate malposition; however, in the course of treatment (antiphlogistic) the heart resumed its natural situation.

Mr. Travers, in reply to Mr. Lawrence, said, that he grounded his opinion of disease having existed in the chest for a longer period than three weeks, on the fact of the left lung being in a state of condensation, and yet so attenuated, that it might be said to form the parietes of the chest on the left side, being not more than two or three lines in thickness, and the pleuræ most intimately coherent. Such an appearance of the lung, he said, had been noticed by Haller, and was different from the dense condition of the lung described by Morgagni, Baillie, and others, and of common occurrence.

From the Lancet.

OLD ADHERENT EPIPLOCELE, *with sudden descent and Immediate Strangulation of the small Intestine. Operation in eight hours from the Strangulation.—Wound of the Intestine closed by a silk Ligature.*

John Shall, sixty years of age, was admitted into St. Bartholomew's Hospital, under the care of Mr. Lawrence, on the 2d of November, 1826. He has had a rupture for the last thirty years; but, although he has worn a truss, the reduction has been only partial, for he states that there has always been in the scrotum a swelling as large as an egg. This afternoon, at five o'clock, after using some exertion, a further protrusion took place, considerably increasing the previous swelling, particularly towards the groin. The part became very painful, and he immediately applied to a surgeon, who gave him aperient medicines, and endeavoured, ineffectually, to replace the parts. At eleven o'clock this evening he was brought to the Hospital, with all the symptoms of strangulated hernia strongly marked. The tumour, which commenced at the upper or internal orifice of the inguinal canal, and extended into the scrotum, was very hard and painful in the former situation, but less tense and sensible in other parts. Tenderness extended over the whole belly, and a tight feeling across the navel was complained of, but the abdomen was soft. The medicines had produced no evacuation; there was constant nausea and vomiting; his pulse was frequent and small. He was immediately put into a warm bath, thirty ounces of blood were drawn from the arm, and a tobacco clyster was injected. As these means were quite ineffectual, Mr. Lawrence determined to operate immediately, although the bowel had descended only eight hours before, concluding from the incompressible hardness of the swelling at the neck, from its great tenderness, and from the other symptoms, that the strangulation was of the completest kind, and that the operation afforded the only prospect of relief. It was performed at one o'clock on the morning of the third. When the external coverings of the hernia had been divided, the finger could be passed between the sac and the tendon of the external oblique as well as under the margin of the internal oblique and transversalis; hence it was obvious that the stricture was caused entirely by the neck of the sac, which could be felt encircling the protruded parts like a tight cord. When the peritoneal covering was opened not a drop of fluid was found in the hernia, the explanation of which must be derived apparently from the very recent occurrence of the descent. The contents of the swelling were a portion of small intestine in front, and a large mass of omentum behind. The intestine was six or eight inches long, and of a dark chocolate colour. A small silver director having been introduced with some difficulty into the upper part of the stricture, it was divided directly upwards with a probe-pointed curved bistoury. On withdrawing the intestine gently it was found at the seat of stricture to be deeply indented, and with a circular mark, as if it had been tightly bound by a cord; its caliber was lessened at this part, and its coats appeared thinner; a considerable escape of inodorous turbid fluid took place when the gut was drawn down, and it was supposed at first to come from the abdomen; but on closer examination a small opening was discovered in the intestine above the strictured part. Mr. Lawrence supposed that the bowel had been wounded by the curved bistoury; he held the sides of the opening together with the dissecting forceps, while an assistant tied it firmly with a small silk, and then cut off the ends close to the knot. Although the omentum had been so long out of the abdomen and pressed on by a truss, it could be unfolded easily, and presented the natural structure; it adhered most firmly to the lower part of the sac. As the bulk of the protruded mass, and its long absence from the cavity, rendered its return both difficult and unadvisable, a large portion of it was cut off, and the divided vessels, which bled freely, were secured with six or eight ligatures. The portion which had been thus tied was left in the wound. The integuments were now brought together and united by means of three or four sutures, assisted by adhesive straps. Two hours after the operation, a small dose of the senna mixture was given, with directions that it should be repeated every hour until the bowels were evacuated.

Nov. 3. Has passed a favourable night; slight tenderness in the neighbourhood of the wound; pulse hard, 90; bowels open, tongue clean. Venesection to twelve ounces. Mist. ammon. acet. c. magnes. sulph. ℥i, to be taken every six hours.

4. Has passed a comfortable night; is in no pain; tongue tolerably clean and moist; pulse less hard, 70; marked improvement of countenance; the blood taken yesterday is quite na-

tural; the wound has united in the greater part of its length.

5. Has been rather restless during the night: pulse increased in frequency and hardness; tongue foul at the back; face flushed; more tenderness in the vicinity of the wound: complains of thirst; bowels free. Venes. ad. ℥xiv. Continue the mixture, with an addition of twenty drops liq. ant. tart. to each dose.

6. Is much better; pulse quiet, 70; tongue clean; no pain in the abdomen; wound looking well; bowels rather confined. Haust. aper. omni hora donec alv. solut. erit. Blood not inflamed.

7. Has not passed so comfortable a night, being much troubled with flatulency; pulse quiet; secretions from the bowels dark and offensive. Hydrarg. c. cretâ, gr. i., pulv. rhei., gr. x.; to be taken immediately. Continue the mixture.

10. Is going on very favourably; no pain in the abdomen; tongue clean; bowels free; appetite returned. The wound is looking very well, and healthy granulations are formed on the omentum.

13. The ligatures were taken away; the wound is granulating; his general health is much improved.

16. He may be considered well, and only waits until the cicatrix shall be completed for the application of a truss.

Remarks.—In the preceding case, the patient had been subject to a rupture on the left side for thirty years, during which time it had never been entirely replaced within the abdomen. A large mass of omentum was found in the hernial sac, intimately adherent to its lower part; but it is worthy of remark, that although it had been prolapsed for so many years, and a truss had constantly pressed on it, yet its structure was apparently sound. Its considerable bulk, and the length of time it had remained out of the abdomen, having lost, as the French writers aptly express it, "son dint de domicile," formed great objections to its being retained, as in all probability it would have acted as a foreign substance, and caused considerable irritation and inflammation. The omentum having been prolapsed for so long a time without disturbing the functions of the abdominal viscera, was, on the contrary, an additional circumstance in favour of its being retained in the wound, but on account of its bulk, it was deemed necessary to cut off a portion of it; the divided vessels were secured by silk ligatures, and the remaining portion of the omentum left in the hernial sac unreduced. No ill consequences followed this mode of treatment, the omentum granulated, and a fair cicatrix ensued. Mr. Hey observes, "when the portion of omentum, which is prolapsed, is in a sound state, of little bulk, and strongly adherent to the hernial sac; and when, from inquiries made of the patient, we learn that this small part has been prolapsed for many years, without disturbing the functions of the abdominal viscera, we may fairly conclude, that we shall not injure those functions by leaving such a portion in its prolapsed state. In such a case, I have suffered the omentum to remain, and have found no difficulty in healing the wound, nor any injury afterwards from the application of a well-adjusted truss."—Practical Observations, p. 172.

When the omentum is large, and has been for some time without the abdomen, Chopart and Dessault advise a large portion of it to be cut off, and to allow the remainder gradually to retire within the abdomen.—Traité des Malad. Chirurgical, t. ii. p. 268. Beyer states that when the omentum is very large, and has remained a long time out of the abdomen, if the whole of it be left in the wound, the cicatrix is formed slowly and with great difficulty, and when it is formed, the pressure of a truss cannot be borne. He therefore advises, that a portion of the omentum should be cut off, and the arteries separately tied; the integuments are brought over the remaining portion, (which is left in the hernial sac,) granulations are formed, and a solid cicatrix, which admits of the application of a truss, ensues. He then relates a case of entero-epiplocele, in which the patient had been subject to omental hernia for forty years, and in which he adopted this mode of treatment with perfect success. —Traité des Mal. Chirur. t. 8. p. 139.

It is well known, that persons who are affected with epiplocele, are constantly subject to the further protrusion of the abdominal contents. In the present case, the patient had borne without much inconvenience an omental rupture for thirty years, a sudden descent of a portion of intestine, then took place, and became strangulated. The operation was performed eight hours after the protrusion; the intestine was found of a dark chocolate colour, and indented at the seat of stricture. These circumstances forcibly point out the necessity of performing the operation without delay, when means of real efficacy have been unsuccessful.

The small opening in the gut was tied with a silk ligature, the ends cut off close to the knot, and the intestine replaced. Sir A. Cooper employed the same means in a similar case, and the patient recovered.—Lawrence on Ruptures, p. 309.

Mr. Travers, in his Inquiry, p. 134, states, from the result of experiment, that when a ligature has been placed on a portion of the intestinal coats, and the gut returned, the process of separation is precisely similar to that which takes place when no ligature is employed, the peritoneal surface of the intestine becomes adherent to the surrounding folds, the ligature separates into a canal, and passes off with its contents.—*St. Barthol. Hosp.*

From the Edinburgh Medical and Surgical Journal.

ESSAI SUR LES TUBERCLES, &c.—AN ESSAY ON TUBERCLES. By Henry Clermond Lombard, M. D. Member of the Royal Medical Society of Edinburgh, &c. Paris, 1827. 4to, pp. 54.

The thesis of Dr. Lombard suggests some new views on the nature, origin, and progress

of tubercles, partly original, partly derived from the oral lectures of Andral. It professes to treat of tubercles generally, but is chiefly confined to the most common of them, those formed in the lungs.

The views most generally entertained of the formation and progress of pulmonary tubercles are those advanced by Laennec in his work on Mediate Ausculation, and founded by him on the pathological experience of twenty-five years. But M. Lombard undertakes to controvert several of the most positive and important of Laennec's statements, and we are inclined to think that in some he has succeeded. Laennec, it will be remembered, maintains that the miliary tubercles or granulations of Bayle are not, as that author conceived, a distinct variety of tubercle, but the commencement or first rudiment of the future white, cheesy tubercle. After a time, according to Laennec, a whitish or yellowish point begins to form in the centre of the translucent grain, it soon becomes altogether opaque, then it begins to soften in the middle, and the softening gradually extends towards the circumference, and increases in degree till the whole mass forms a thick matter, which approaches in nature to pus, and is eliminated by expectoration through an opening in one or more bronchial tubes. This account presumes that the tubercular matter is in the first instance organized, and endowed with vitality. M. Lombard on the other hand, follows Bayle, Chomel, and Andral, in assigning to the miliary granulations an existence independent of tubercles, and indeed does not account them of a tubercular nature at all. According to his dissections they are of two kinds. One, the formation of which has been traced by Andral, is described as the result of *lobulated pneumonia*, and as consisting of hypertrophy of the parietes of the air-vesicles. The other which has been ascertained by M. Lombard himself, is a similar production formed in connexion with the blood-vessels which supply tuberculated portions of the lungs.

The proper tubercle, according to M. Lombard, is in every one of its seats—the lungs, the external glands, the spleen, the mucous membranes—a secretion deposited in the cellular tissue. It is a dead substance, incapable of undergoing any internal changes, opaque from the beginning, and increasing by the juxtaposition of more tubercular matter. A tubercle is sometimes simple, situate in a single mesh of cellular tissue, and not containing within it any of the regular textures in which it is deposited; at other times it is compound, (*T. infiltré* of Laennec) or consists of several simple tubercles closely applied to each other, and enclosing therefore between them smaller or larger portions of pulmonary tissue. The only mode of elimination which M. Lombard has been able to establish by his pathological researches is by the mass being separated from the surrounding tissue by inflammation and suppuration of a thin stratum of the latter, in consequence of which the tubercle becomes loose, breaks down, is mingled with purulent matter, and then discharged by expectoration. A tubercle never softens in the centre, as Laennec supposed, unless it is a compound one, in which case the organized tissue included in it may inflame and suppurate, breaking down the tubercle within, and so giving it to a careless observer the appearance of a softening or suppuration of the proper tubercular matter. A similar deceptive appearance may arise from the occasional formation of an indurated cyst around a simple tubercle, and likewise by the tubercular matter having been deposited around a bronchial tube, so that there is formed in its centre a little cavity containing muco-purulent matter.

Having thus stated the results of his observations on the origin and progress of pulmonary tubercles, M. Lombard next proceeds to consider their causes, predisposing and occasional. The predisposing causes which he enumerates are, 1, Hereditary disposition, the operation of which it seems some French authors, M. Louis in particular, are inclined to dispute; 2, Peculiarity of temperament, engendered by living in cold and moist countries and in unhealthy situations; 3, Age, children being more liable than adults; 4, Sex, females suffering more than males; 5, Changes in the animal fluids caused by insufficient food, by bad food, or by an unfavourable mode of professional life. On these points the author has advanced little that is new. The section on the occasional causes is more important. The author espouses warmly the doctrine lately advocated by Dr. Alison of this university, and by Andral,—that a common cause of tubercles is inflammation of the lungs. This account of the origin of tubercles has been very pointedly contradicted by Laennec, who, in reference to some vague conjectures of Broussais, has laboured to prove that they are not connected either with acute or chronic pneumonia, or with catarrh, or with pleurisy. M. Lombard maintains that they are the frequent consequence of catarrh, acute pneumonia, and chronic congestion in the lungs, and considers the tubercular matter as a secretion deposited in particular constitutions in the course of the inflammatory disorder, just as serum is effused in others, and the fibrin of hepatization in others. He rests this opinion on the conjunction remarked by Dr. Alison of tubercles and hepatization in persons who had died of pneumonia, and who, previous to the pulmonary affection, had been in good health,—on similar observations made by Andral,—and on others made by himself. We may add, that we have lately seen in the Infirmary of this city a striking example of the same description, in a patient who died of inflammation of the right brachial vein, united, as that disease often is, with pneumonia of the same side. The man died eight or ten days after the vein began to inflame, and on inspection the lung of the right side was found partly hepatized, partly infiltered with serum, but in a still greater degree studded with large grayish yellow masses analogous to the matter of tubercles, and of the variety which

Laennec has named *tubercules infiltrés.* The left lung was likewise studded with tubercles, but did not exhibit any hepatizations or serous infiltration. Previous disease of the lungs to the extent in which the tubercular matter was effused, appeared hardly possible, as the man was remarkably robust in figure, and followed a very active profession, that of a dancing-master, without having ever had any pulmonary affection. Another fact on which the author rests the opinion now referred to, is the production of tubercles in animals when the bronchial membrane is mechanically irritated by the injection of mercury into the trachea,—a fact which was ascertained, lately by M. Cruveilhier. A considerable part of M. Lombard's thesis is taken up with an investigation of the arguments used by Laennec, Louis, and Rostan, against the doctrine of the inflammatory origin of tubercles. In this investigation he has shown much acuteness and considerable success. It is impossible, however, for us to follow him in the details.

But it is not to acute inflammation only that M. Lombard ascribes the origin of tubercles. Passive congestion, he thinks, may have the same effect, upon the principle that whatever obstructs the circulation of a part increases secretion there, and that secretion is, in particular habits, apt to give place to tubercular deposition.

The remainder of the work is occupied by a short detail of the symptoms of incipient tubercles and of the treatment. On the former of these subjects the author has advanced nothing new: the existence of the disease can be ascertained only presumptively. Under the head of the treatment, he insists strongly on a rigorous prophylactic regimen being observed by those who have a tendency to the disease, by hereditary taint or constitutional disposition, and has laid down the rules for accomplishing this object succinctly and accurately. While treating of constitutional disposition he very properly takes notice, that as two opposite temperaments are subject to tubercles, viz. the lymphatic and sanguineo-nervous, two very opposite systems of treatment are required in individual cases: in those of a lymphatic temperament the constitution must be strengthened; in those of sanguineo-nervous temperament an opposite plan must be pursued, particularly in respect to diet. This difference explains, he thinks, the very discrepant accounts given of the success of the two methods of cure which have been applied to the early stages of phthisis. Having considered the prophylaxis he proceeds to the curative treatment, under which he considers the two important questions—relative to the susceptibility of tubercles undergoing absorption, and the possibility of tubercular ulcers healing up. He considers that tubercular depositions may be absorbed, like every other secretion, though this does not appear to occur often in the lungs. He likewise insists that there is nothing in the intrinsic nature of tubercular ulcers to prevent them healing, and that they are prevented doing so only by the formation of new tubercles around,—caused by the inflammation in the vicinity of the ulcers. The fatal issue of most cases of phthisis is owing not to the drain caused from any particular set of tubercular cavities, but to the constant successive formation of new ones. The great object of the curative treatment, then, should be to keep within moderate bounds the inflammation by which the tubercular matter is eliminated; and the principal difficulty is to accomplish this indication of cure, without at the same time interfering with the prophylactic treatment, on which dependence must be put for correcting the tubercular tendency of the constitution.

The author seems to us to have been, so far as his inquiries have gone, very clear and successful in his expositions, and his views and statements cannot fail to attract the attention of all those who are now engaged throughout Europe in the investigation of pulmonary disorders. In some particulars he has certainly gone far to prove that the prevailing doctrines require to be subjected to fresh inquiry.

From the Journal des Progres des Sciences et Institutions Medicales.

ARTIFICIAL PUPIL.

The following is the substance of a communication made to the Academie Royale de Médecine, by MM. Chaussier, Dumeril and Boyer, charged with a report upon two memoirs of Dr. Faure, relative to this subject.

1. When the radiated fibres of the iris are divided transversely, an opening is made, which, however, is soon obliterated, if the iris preserve its mobility unimpaired, and the eye be not exposed to the action of light; and this obliteration takes place more quickly, if the blood extravasated during the operation be not removed.

2. When a segment is removed from its elastic portion, without detaching it from the ciliary ligament, or involving the circumference of the pupil, the obliteration of the artificial opening may equally occur, though not quite so readily, as in the case of a simple division.

3. If a segment be made of a triangular form, with the base corresponding to the ciliary ligament, and the apex with the circumference of the undivided pupil, it does not curl upon itself, but may contract so greatly as to disappear almost entirely, leaving a well formed pupil.

4. If the margin of the pupil be divided, the separation in the form of the letter V, is greater towards the centre, in proportion as the incisions are more extended towards the circumference of the iris.

5. If the margin of the pupil be divided to a small extent, sufficiently, however, to form a triangular segment, with its base directed towards the ciliary ligament, the contraction is slight, and the segment instead of rolling upon itself posteriorly, appears to be carried towards the cornea, with which it sometimes

contracts adhesions; the greater the segment, the less the natural motions are observed on the divided side, but it re-acquires all its mobility after the formation of adhesions, which serve as a *point d'appui* to the muscular action of the part, not interested in the operation.

6. If an incision be made in the direction of a perfectly healthy iris, approaching, but not involving the margin of the pupil, there results an opening, which is less liable to become obliterated than any other, although no segment have been removed.

7. If the iris have been greatly distended, or have undergone any disorganization, which may have altered or destroyed the motions of the pupil; the contractile power of the orbicular fibres, and the elasticity of the radiated tissue, is also destroyed.

8. When in consequence of a wound, ulcer, or any other cause, the circumference of the transparent cornea has been diminished, and the iris has lost its tension; the simple division of this membrane, in whatever part or direction, either occasions no separation, or only a very slight one; and it is therefore necessary, when performing the operation for artificial pupil in such eyes, to remove as large a segment as possible; if on the contrary, it have contracted adhesions with a point on the cornea, and an incision be made perpendicularly to the radiated fibres, a considerable separation takes place, rendering the removal of a segment unnecessary.

10. Two pupils, the one natural and the other artificial, existing in the same eye, dilate and contract in opposite directions, uninfluenced by the manner in which the latter has been formed, or the part of the iris in which it is situated; but if there be only an artificial pupil, it is immobile and invariable.

Such are the principal results, comprised in the first memoir of M. Faure; in the second, he explains the rules according to which the operation should be performed, and the modifications it should undergo in different cases; as a general rule, the ablation of a segment of the iris, is preferable to the simple incision, and separation of a portion of the great circumference of this membrane. The extent of the segment is variable; if the natural pupil be obliterated, it will be sufficient to divide it near the ciliary ligament, without detaching it from its adhesions with that body; but if the pupil be free, behind a considerable opacity, it will be necessary to separate it from the ligament, and afterwards divide the pupillary margin, if this have not been done previously. If the segment be divided into minute pieces, the separation is more easily effected, and is attended with more pain than if it be removed altogether; but the operation should be quickly performed, otherwise the blood, which is sometimes extravasated in considerable quantity, destroys the transparency of the aqueous humour, and renders difficult the removal of the fragments. When this extravasation occurs, the operation should be discontinued for a few moments, and slight pressure made upon the globe of the eye to promote the discharge of the effused blood; this should also be done after the operation, if the blood extend into the anterior chamber. The incision in the cornea should always be made in such a manner, that the resulting cicatrix may not intercept the luminous rays in their passage to the artificial pupil, and this rule is the more important, in proportion to the diminished extent of the cornea, which still preserves its transparency; in such cases, the incision should be made through the opaque part.

Dr. Faure terminates his memoir with a case in which the operation was successfully performed upon a girl, 18 years of age, fifteen of which, she had passed in a state of blindness; the right eye was entirely destroyed; and the left almost entirely covered by a thick, white opacity, the sequel of a variolous pustule; she had been previously operated upon by an able surgeon, and pronounced incurable. An incision, two lines in length, was made through the opaque cornea, and the iris pierced by a cataract needle; the latter was then withdrawn, and the blade of a spring instrument, contrived for the purpose, introduced through the opening, by means of which, the iris was divided in different directions, and some of the fragments removed. On the tenth day, the patient could perceive objects, without being able to judge of their situation, form, and magnitude, unassisted by the sense of touch; time, however, remedied this defect, and two years after, she had acquired the power of distinguishing very minute objects.

M. Boyer has had an opportunity of ascertaining the accuracy of the preceding statements, by examination of the animals, which were the subjects of the experiments, and expresses a desire, that M. Faure will redeem, ere long, the promise he has made of publishing a more complete work on this subject.—*Institut, Séance du 12 Novembre.*

From the Journal Universel des Sciences Medicales.

OBSERVATIONS UPON SOME IRREGULARITIES OF CONFORMATION. By Dr. Amedee De Moulon, Médecin en 2d. de l'Hospice Impérial et Royal de Trieste.

On the 18th August, I was invited by Dr. Gazzarolli, to assist him in the examination of the body of Marie Barba, aged 14 years, who died the preceding evening, of chronic gastro-enteritis, complicated with hepatitis and violent inflammation of the pancreas.

The abdomen was tumefied, and presented as far as the anus, a complete demi-arch, uninterrupted by the prominence of the pubis, which was entirely wanting.

The umbilicus was situated a short distance beneath the hypogastric region, in the place usually occupied by the mons veneris; it was about thirteen lines in diameter, of a livid colour, and pressed inwards, especially at its in-

ferior part, where it formed a small *cul de sac* two or three lines in depth.

An inch beneath the umbilicus, there was a round, dark coloured spot, which might be nine lines in diameter; it presented three small points of deeper colour, situated one above, and two others laterally and below, permitting the introduction of a probe to the depth of two lines. A short distance below the spot just mentioned, and in the situation ordinarily occupied by the orifice of the vagina; the anus was found, of sufficient size to permit the introduction of the hand. I examined the rectum, to satisfy myself that there was no communication with the organs of generation, but no such connexion was discoverable. Below the umbilicus, and upon the sides of the dark spot, two hard projecting bodies, forming two segments of a circle, proceeded downwards in a diverging direction, and terminated insensibly in the skin. At the superior part of each of these protuberances, there was a body resembling the clitoris in structure, and about their centre a mole-like excrescence, which gave origin to several hairs.

Passing to the examination of the abdominal viscera, the muscles forming the parietes of that cavity were found considerably thinned, and indeed, entirely wanting in the vicinity of the umbilicus. The peritoneum was very delicate, and covered with black, livid spots; these were apparent also throughout the whole extent of the alimentary canal; the liver was in a state of gangrene, and a sac filled with pus occupied the situation of the pancreas; the omentum majus was also in part destroyed; the spleen was of a dark colour, but preserved its usual softness.

The bones of the pubis were separated in front to a considerable extent, and the parietes of the abdomen formed the only protection to the pelvic contents; the bladder was entirely wanting; the urachus, which was very large and long, terminated insensibly in the teguments of this part.

Behind the black spot above described, the uterus, ovaries and tubes were observed of their natural size and conformation; there was no vagina; the two projecting bodies of which we have spoken, were composed of cellular tissue, covering each an os pubis. There were no traces of the kidney and ureters, and what is remarkable, the umbilical vein was much larger than it is found in the adult subject. No unusual appearance was observed in the examination of the thoracic viscera.

We learnt after the death of this young girl, that she had from her birth been subject to an inconvenience which occasioned her much disquietude; it consisted in the discharge, by the umbilicus, of a fluid analogous to the urine, and possessing an odour so penetrating, that she was obliged to renew almost incessantly, the cloths which she applied to this part.

Dr. Moulin supposes that in the preceding case, the depuration of the blood was performed in the liver, and the excrementitious fluid, afterwards conveyed to the umbilical vein, to be discharged through the umbilicus.

From the Journal des Progres et Institutions Medicales.

EXTENSIVE ABSCESS OF THE ABDOMEN.

Gaspero M——, aged 19 years, of a feeble constitution, but endued with a very lively disposition, was much addicted to venereal excesses, at the same time, that he indulged freely in the more severe gymnastic exercises. This course was continued about six months, during which his health did not appear impaired; towards the expiration of that time, however, he became emaciated, lost his natural colour, and complained from time to time of debility, frequent perspirations, anorexia, and transitory pains in the spine and abdomen; notwithstanding which, he still pursued his previous course of life. In September, 1825, he was attacked with jaundice, which disappeared under the use of simple remedies; his general health continued unimproved.

October 25th, of the same year, he consulted Dr. Cartoni for a very acute pain, which for some time past, he had felt in the direction of the dorsal vertebra, obliging him to preserve a bent position, and being much increased by any attempt to resume an erect posture; it was not augmented by pressure. He was much emaciated, and had a slight fever accompanied with shiverings, and a dry cough. M. Cartoni, supposing the case to be one of inflammation of the medulla spinalis, which had already made considerable progress, directed the application of twelve leeches to the painful part, a milk and farinaceous diet, and a total abstinence from wine and spirituous liquors. These means had no influence in arresting the progress of the disease, and on the second of November he was confined to his bed, complaining greatly of pain in the region above mentioned, and in the abdomen; at this period the emaciation was extreme throughout the whole body; fever, red and pointed tongue, thirst, dry skin, constipation, burning heat interiorly, increased action of the heart,—these were the symptoms which now presented themselves, together with a tumefaction in the epigastric and hypochondriac regions, in which a distinct fluctuation was perceptible; the tumour was bounded inferiorly by the umbilicus, and extended backwards towards the vertebra, impeding the descent of the diaphragm and encroaching upon the cavity of the thorax. A few leeches were applied over the seat of the pain, and a blister to the spine, which appeared to produce some relief; the tumour, however, continued to increase, fluctuation became more and more evident, and the strength of the patient declined daily.

A consultation being now held, it was decided to puncture the tumour, which was accordingly done, and about seven pounds of a thin, very fetid pus, containing some albuminous flocculi, were drawn off, when the pa-

tient being threatened with syncope, a tent was introduced into the opening, and a bandage applied round the body; he appeared tolerably well the remainder of the day, although the fever still continued. At a subsequent dressing, instead of the usual jet of pus, a round, diaphanous, yellowish body was observed at the opening, not unlike a portion of intestines; when discharged, it resembled in every respect the yolk of an egg; other similar bodies were afterwards evacuated with the pus, and upon examination, by Professor Scalo-Savi, were found to be acephalocysts.

In proportion as the discharge continued, it became thinner and more fetid, the strength of the patient declined daily; cold sweats supervened, and the emaciation continuing, he died on the 25th November.

On dissection, a quantity of serum was found in the abdomen, the vessels on the surface of the intestines were injected, the omentum engorged, red, and agglomerated, adhered to the anterior parietes of the abscess; the stomach situated perpendicularly behind the tumour, occupied the whole of the left hypochondrium; the spleen much reduced in size, was also carried backwards; the duodenum was depressed almost to a level with the umbilicus, and the same thing was observed of the liver, which protruded against the parietes of the abdomen, was strongly adherent, and almost identified with the right and inferior portion of the abscess. The diaphragm, intimately connected with the abscess, was elevated as high as the fifth rib; the lungs were shrunken and compressed, and the heart carried upwards and forwards, was placed in contact with the posterior surface of the sternum.

The parietes of the abscess itself, varied greatly in thickness; below, they were so weak as scarcely to bear handling; it was bounded above by the diaphragm; inferiorly and to the left, by the lesser curvature of the stomach, and the transverse and descending portion of the duodenum; and on the right, by the liver protruded against the seven lower ribs, which were considerably elevated. After separating the omentum from the anterior surface of this vast abscess, and laying it open in the direction of its length, it was found to contain about twelve pounds of thin, yellowish, and very fetid pus, in which swam a great number of vesicular bodies, resembling those discharged during the life of the subject; the greater number, although they still preserved their globular form, had assumed a gelatinous appearance, and some were converted into flocculi, or fragments of albuminous matter; when emptied of its contents, the internal surface of the sac presented a gangrenous aspect, and was formed by a pseudo-membrane, which could be separated into lamina.

This case is followed by some reflections and erudite researches upon the subject of hydatids, leading M. Cartoni to the conclusion, that blows and contusions are frequent causes of the production of these entozoaires, which in the turn, may occasion the formation of an abscess in either of the great cavities.

From the Nouvelle Bibliotheque Medicale.

ENTERITIS AND PERITONITIS, *followed by a vast collection of Purulent Matter in the Sub-Peritoneal Cellular Tissue, opening into the Intestine.* By Dr. Pinel, Médecin adjoint de Sainte Pélagie, &c.

Subsequently to some excesses in dancing and the pleasures of the table, Madame G—— was attacked, 16th October, 1826, with diarrhœa, accompanied with colic pains; the latter not being very severe, she continued her amusements during the following day, in consequence of which, the pains were much augmented, and the diarrhœa somewhat diminished. The patient being in a state of extreme suffering, Dr. Pinel was sent for on the 18th, the third day of the disease; the following were the symptoms then presented. Acute pains accompanied with a sensation of great heat, existed in all that part of the abdomen, situated beneath the umbilicus; tenderness on pressure, meteorismus, decubitus on the back, tongue white, thirst, nausea and vomiting, constipation, pulse hard and frequent, skin hot and moist, great anxiety, respiration accelerated, &c.; an assemblage of symptoms which left no doubt of the existence of peritonitis, preceded by enteritis. Thirty leeches were immediately directed to the abdomen, which assisted by emollient fomentations, and demulcent beverages, somewhat diminished the violence of the disease. The relief, however, was only temporary, and on the 20th there was an increase of all the symptoms. The pain was extremely severe, especially in the iliac regions, which were tense, and acutely sensible on pressure; the pulse, which had been very frequent from the beginning, was hard and more concentrated, the constipation continued, with difficulty in the excretion of urine, face pale, indicative of pain, and a cold and evanescent moisture bedewed the surface. The leeches were re-applied, and were again productive of a melioration of the disease; the pain abated over a considerable part of the abdomen, the pulse became softer, &c. &c. In two points of the abdomen, however, the pain continued undiminished, the centre of the right, and particularly the inferior part of the left iliac region; in these places a considerable tumefaction was perceptible. Thirty-five leeches were directed to the inflamed parts, and were followed by a sensible amendment on the 25th; the patient was now refreshed by sleep, to which, up to this period, she had been a stranger, there was less difficulty in the evacuation of urine, and she was no longer tormented by nausea.

The tumefaction above mentioned continued to increase, and presented itself under the form of two projecting tumours; the one on the left side, which was the larger, occupied the two inferior thirds of the iliac region, extending as far as the os pubis; the other was situated in the triangular space bounded by three lines, drawn from the pubis to the umbilicus, from the latter to the anterior superior spinous process of the ileum, and from this

process, again to the pubis; some induration existed between the two swellings, but did not destroy their isolated character; they could only be moved in connexion with the abdominal parietes, and from this circumstance, and the thickness of their intervening covering, were supposed to be seated in the cellular tissue exterior to the peritoneum. On the 19th day of the disease, a dull, pulsating pain was felt in the tumours, accompanied with irregular shiverings, and the greater number of those symptoms indicative of the formation of an abscess, although by reason of the surrounding induration, fluctuation could not be detected. With a view to promote the operations of nature, the fomentations were continued, and emollient enemata were directed five or six times daily. On the 26th November, while trembling for the existence of his patient, Dr. Pinel was much gratified to learn that she had voided a considerable quantity of purulent matter, which continued to be discharged to the extent of three or four ounces, for a week afterwards. From this period, there was a rapid diminution of the tumour on the left side; that on the right disappeared more gradually; the quantity of pus diminished almost imperceptibly, and after the 15th March, was no longer observable in the evacuations. The patient, who had been much reduced by the disease, entirely recovered her health, subject, however, to occasional attacks of colic, an affection to which she had not been previously liable; some degree of induration remained in the situation occupied by the tumours.

Five months after, Madame G——, had another attack of this disease, accompanied with all the symptoms above narrated, though not to the same extent; a similar treatment was pursued, and by the tenth day the pain was limited to the right iliac region, the site of the former tumour which had re-acquired a considerable magnitude. Unable to employ active measures, by reason of the debility of his patient, Dr. Pinel limited himself to emollient applications, enemata, &c., under which treatment the tumour continued to increase. Rigours supervened on the 28th day, and returned at intervals for forty-eight hours, attended with a pulsating pain in the swelling, which now equalled in volume a large orange, and had lost, in some measure, its hardness. A distinct fluctuation was perceptible on the 52d day, two smaller tumours made their appearance on the centre of the larger one, and gradually attained the size of a small nut; the skin became exceedingly thin, and a small opening being made into one of them, gave exit to a large quantity of greenish pus, having a fœcal odour; the swelling rapidly diminished from this period. The third day from that on which the opening was made, gas was discharged through the wound, and a small quantity of fœcal matter was observed in the pus. The minute quantity of pus discharged by stool, would seem to indicate that the opening into the intestine was situated in the superior part of the cœcum, in which case, the pus being obliged to ascend, could not readily escape into that canal. The opening made into the tumour gradually diminished, and one month afterwards, was reduced to two lines in breadth; at the time the preceding history of the case was drawn up, the quantity of pus evacuated did not exceed half an ounce daily; gas continued to escape freely through the opening, but the fœces appeared to have almost entirely regained their natural course.

From the London Medical and Physical Journal.

CASE OF SPONTANEOUS ECCHYMOSIS, *with acute Subcutaneous Œdema.*

A female child, three years old, of a good constitution, and who had always enjoyed a perfect state of health, complained, immediately after taking a hearty meal, that she was incapable of standing. The legs were painful up to the knee. The left ankle was considerably swollen, and was the seat of numerous ecchymosis of a purplish colour. During the night, the right leg and foot presented the same appearances. The little patient was much agitated, and did not rest a moment. The skin was dry and hot, the belly tender. Next day, the upper eyelids became œdematous; the back of the left hand also swelled, and ecchymoses appeared in this part similar to those upon the legs.

The succeeding day Dr. Ollivier visited her for the first time. The face was swollen, the upper eyelids œdematous, and so much tumefied as to prevent the globe of the eye from being visible. The left eyelid was not so much swollen as the right, but it was ecchymosed, and the purplish red colour of the skin did not disappear on pressure, as is the case in an erysipelatous blush of the surface. The back of the hands and the lower part of the forearm was œdematous, and covered with numerous ecchymosis of a deep colour, varying in size from a small speck to an inch and a half in extent. The inferior extremities had nearly the same appearance. The spots of ecchymosis were in these parts somewhat larger, and some were of a greenish yellow colour, as is observed when ecchymosis occurs from external violence. The child did not appear to suffer from pressure of the limbs, and the pain she experienced when the above symptoms first developed themselves had entirely ceased. The body was entirely free from ecchymosis. The pulse was full and 120 in a minute. Mild aperients were given and laxative clysters were used, and the symptoms diminished in a few days. The tenderness of the belly still continued.

Again, however, the child suddenly complained of her feet being painful. They were very hot, much swollen, and very tender to the touch. Large patches of ecchymosis soon appeared about the ankles. Several clysters were given of decoction of poppy heads, and which relieved the pain in the abdomen. On the next day, the pain of the lower extremities was rather increased, and the spots of ecchymosis were more general. It was ob-

served that the extravasation occurred almost instantaneously. The child was twice put into a warm bath, and the swelling of the legs and the appearance of ecchymosis were much diminished. The left hypochondrium was very tender to the touch.

A few days afterwards, the legs and thighs were covered with an eruption resembling the Urticaria Subcutanea of Willan, which remained but for a few hours, and was succeeded by fresh patches of ecchymosis. Four grains of calomel were given, which brought away some slimy evacuations with a little blood. The dose was repeated by the parents, with the same effect. The child had entirely lost its appetite, and, as it was now observed to have periodical attacks of fever, and the pain of the belly had ceased, four grains of the Sulphate of Quinine were given in a clyster. Fresh spots of ecchymosis appeared upon the extremities, and the child was restless and much agitated during the night. Upon consultation, it was determined to apply six leeches to the anus. The warm bath was repeated.

From this time the child gradually improved, although the œdematous swelling and ecchymosis of the skin still continued to appear occasionally. When it appeared to be in a state of convalescence, the symptoms twice returned with their original violence, without any apparent cause. By strict attention to diet, and the employment of laxative clysters, the little patient at length perfectly recovered.

At the commencement of this disease, there were no symptoms of intestinal irritation. The loss of appetite and constant pain in the belly, which soon came on, clearly show, however, that the digestive organs were deranged; and, from the simultaneous appearance of cutaneous symptoms with the abdominal irritation, it cannot be doubted that they arose from the intimate sympathy which is so well known to exist between the skin and the mucous membrane of the intestines. (*Archives Gén. de Médecine.*)

From the London Medical and Physical Journal.

OBSERVATIONS ON BLACK VOMIT. By William Lyons, Staff Surgeon.

From my situation of principal medical officer in the island of Dominica, West Indies, and from the fatality of the fever of that island, my attention was given in a particular manner to the consideration of its phenomena. Black vomit, one of its most alarming symptoms, soon fell under consideration; and although I was soon enabled to convince myself of its identity with altered blood, from an attentive examination of that fluid when ejected from the stomach, and the state and contents of the stomach after death, and likewise from an examination of the liver and tubili biliferi, yet the hitherto inexplicable mutation of the blood's colour to black remained in its concealment.

The black colouring matter of this fluid was separated by filtration in the easiest manner, and its powerful acid qualities were proved by its active effervescence with alkalies, as well as by its action on the enamel of the patient's teeth, and by its powerfully ascescent smell: but it was not until I observed, in the examination of recruits at this station, that an immense quantity of muriatic acid is constantly secreted from the skin, with the insensible perspiration, that I brought to my mind Dr. Prout's discovery of this acid's being the principal one secreted in morbid conditions of the stomach, and with it the idea of ascertaining the effects of this acid upon the blood.

Having made the experiment of adding muriatic acid to blood, the colour of the blood was instantly altered to a deep black, and, when diluted with water, presented a liquid which I should have declared, from mere inspection, to be black vomit. This experiment has been tried by Dr. Hope, at my suggestion, and the results have been the same, even when the muriatic acid had been so far reduced with water as to be hardly capable of turning the edges of the teeth; and is supposed by Dr. Hope to be an interesting adaptation of Dr. Prout's discovery to the explanation of the symptom of black vomit.

I am persuaded that if these experiments, or rather facts, shall turn out to be a satisfactory manner of accounting for black vomit, that it will afford you pleasure; and the more so as the same facts may be fairly brought in explanation of malaria, &c.: it will also be an additional argument of the futility of urging that the black vomit is a symptom which predicates the contagious nature of the fever in which it is observed.

Whilst upon this subject, it may not be amiss to mention the successful treatment of a case of fever with black vomit, by the use of nitrate of silver and opium, immediately after the abstraction of a large quantity of blood, and those circumstances that led me to the use of the remedy.

In 1825, while in Canada, an epidemic catarrh prevailed amongst the inhabitants: in many of these cases, the bronchial affections were secondary to an ophthalmic attack, in which the conjunctiva was principally engaged. All the private practitioners used the usual mode of fomentation, blistering, and bleeding, without being successful. I alone had recourse, from the first commencement of the symptoms, to the use of nitrate of silver as an external application, with the happiest effects; and to this practice I was led by the opinion of my much respected friend, Dr. James Forbes. Purgatives and cupping were seldom required. From the magic-like effect of this remedy in dispelling the blood from the conjunctiva,—from the similarity of the catarrhal disposition noticed in this epidemic to something of the same kind of catarrhal epidemic in the West India fevers, where the gastric symptoms were most prominent, the idea struck me that the nitrate of silver, in

conjunction with opium, might act powerfully in allaying the stomach affections; and with this intention it was given in the case of Mr. Cotton, clerk of the market at Dominica, long after the appearance of black vomit, and most certainly with the effect of stopping the vomiting for eight or ten hours before death.

Emboldened by the result, I proposed the remedy, in the case of an artillery man named Ewing, to Mr. M'Gibbon, assistant surgeon of the 35th, under whose immediate care the man was.

The plan of treatment was commenced under the following circumstances:—

A man of the name of Sweeny, belonging to the same corps, had been sent to hospital from the same barrack thirty-six hours before Ewing: this man having died perfectly yellow, and with the symptoms of black vomit, in twenty-four hours after admission, and his body opened in twelve hours after, we came from the dissection of Sweeny to the examination of the fluid which Ewing was throwing up; and, upon the comparison of the fluid taken from Sweeny's stomach with that ejected by Ewing, the identity was beyond the possibility of a doubt, and, under these impressions, all hopes of his recovery was in our minds out of the question. It was under these circumstances that I proposed that as much blood as could be abstracted should be removed, and that we should then administer nitrate of silver and opium.

Blood to the extent of about thirty-two ounces was forced from the arm; but, after the arm was tied up, and whilst we were abstracting blood, the vomiting recurred. In the mean time, the pills with nitrate of silver and opium were prepared, and administered; and from the first dose the vomiting ceased. They were continued for six or eight hours; and a dose of croton oil was then administered. He was convalescent the third or fourth day, and had no return of fever; although he continued languid for some weeks.

It will be seen that the nitrate of silver, in the foregoing case, was administered for the purpose of obtaining its stimulant and tonic powers solely, although it may have acted beneficially by its power of decomposing muriatic acid.

From the Medico-Chirurgical Review.

ICTHYOSIS.

William Goodwin, æt. 11, applied at the hospital as an out-patient, under Dr. Roots, 12th July, 1827. The whole of his limbs, excepting the joints, were covered with a calcareous scale, which was hard, of a darkish gray colour, and intersected into small square meshes. He has always enjoyed good health, though of a well-marked scrophulous diathesis, but has never been free from the present complaint since he was a year old.

His bowels are confined, so that a week will sometimes pass without his procuring a stool; he has thirst at present, and a bad appetite; his urine is in full quantity, light in colour, and without sediment—his body is constantly itching. Ordered picis liquid, ℥ss.; pulv. glycirrhizæ, q. s. ad massam formand. quam in pil. xl. divide cap. iij. 6tis horis; balneum tepid altern. auroris.

This remedy was continued for about five weeks, when he complained of sickness to a great degree, so that it could no longer be borne on the stomach for any length of time, and the impure prussic acid was prescribed. The effects of this equally nauseating medicine I have not been able to collect, nor do I know the object of its application. 'Tis true, that the scales are now pretty generally cleared from the skin, but it must be supposed that the bath was more influential in removing them than the pitch; and, of course, as far as the constitutional disposition is concerned, little amendment can yet be visible. Dr. Mason Good alludes to this treatment, but says, that he never heard of any permanent good effect from it; for, as soon as *local* remedies even are withdrawn, the scales have re-appeared.

The pathology of this disease seems to be a metastasis of the secretion of the calcareous earths. In like manner, Dr. Good relates two cases, where calcareous matter was secreted with the saliva and urine, and where, upon examination of their bones after death, little more than cartilage was found, of which "the scalpel, with very little force, ran through the hardest." But a simple vitiated secretion is seen in mollities and fragilitas ossium, of which the present case can be but a variety.—*Guy's Hospital.*

From the Medico-Chirurgical Review.

A CASE OF SUPPOSED FUNGUS OF THE BRAIN BENEFITED BY IODINE.

William Hicks, æt. 44, admitted, under Dr. Scott, 12th July, 1827, complains of imperfect vision of the left, and total darkness of the right eye. The recti muscles are likewise partially paralyzed, their motion being very limited, if not altogether gone: thus he is able only to turn the right eye upwards, and the left a little to the side in addition; no adaptation, therefore, of the eyes can take place, and he sees objects doubled beyond a certain focus, the axis of the one crossing that of the other at a certain point. The pupils are small, and do not contract to the stimulus of light. He has also a numbness of the lower extremities, with occasional flashes of pain, extending from the foot to the thigh—there is such debility of these limbs, that he drags them after him in walking, and often misses his step. His hands, likewise, partake of this debility, for they are not capable of offering any degree of force.

He has passed a sedentary life, being a weaver, and has been constantly the subject of headach for these two years past—bleeding, however, generally relieved it.

Dr. Elliotson, in the absence of Dr. Scott,

said, he considered these symptoms to arise from the presence of fungoid growths in the cranium; he, therefore, ordered T. iodinæ, ♏. x. ter die; abrad. capilli et app. ung. iodinæ capiti bis die.

The patient continued these medicines, gradually increasing the former to xxv. ♏. until the 5th of August, when the stomach became irritable, and it was withdrawn. Its use had been attended with decided benefit—the eyes are less dark, and he can move them in almost any direction—his feet are stronger, less numbed, and but seldom affected with those stinging pains complained of on his admission. Blisters were made use of afterwards, but almost immediately upon the abstraction of the iodine his pains returned, his walking was attended with the same uncertainty as at first, his sight became dimmed, and he complained of headach. The subsequent treatment I was unable to learn. G. Wickham.

From the Lancet.

STOMACH OF BIRDS.

In most birds, the stomach lies at the upper part of the abdomen, that is, close to the spine, and rests, in a manner, on a stratum of intestines; in the *cuckoo*, however, it lies below. This peculiarity does not belong exclusively to that curious bird, for I have found it in the *ramphastos* and the *corvus caryocatactes* (the nut-cracker).

The structure of the stomach differs most widely in the different orders and genera of this class. It appears merely as a thin membranous bag in several of those which feed on flesh and insects, when compared with the thick, muscular globes of the granivorous genera. But there are both many intermediate links between these extremes, and at the same time considerable analogies in the structures, which are apparently the most opposite. This is particularly observable in the course of the muscular fibres, and in the callous structure and appearance of the internal coat, in which points many membranous stomachs have a great resemblance to those of the *gallinæ*.

Both parts, but particularly the muscular, are very strong in the gizzard (*ventriculus bulbosus*) of granivorous birds. We find here instead of a muscular coat, four immensely thick and powerful muscles, viz. a large hemispherical pair at the sides, (*laterales*,) and two smaller ones (*intermedii*) at the two ends of the cavity; all the four are distinguished, both by the unparalleled firmness of their texture, and by their peculiar colour, from all the other muscles of the body.

The internal callous coat must be considered as a true *epidermis*, since, like that part, it becomes gradually thicker from pressure and rubbing. It forms folds and depressions towards the cavity of the stomach, and these irregularities are adapted to each other on the opposed surfaces. The cavity of this curious stomach is comparatively small and narrow; its lower orifice is placed very near the upper. Every part of the organ is, indeed, calculated for producing very powerful trituration. The numerous experiments which Reaumur performed in order to determine the extent of this triturative power, are universally known. There are two curious observations on this subject less generally known. Felix Plater found an *onyx*, which had been swallowed by a hen, to be diminished by one-fourth in four days; and a *louis d'or* lost in this way 16 grains of its weight. The end and use of swallowing stones with the food, the well known instinctive practice of granivorous birds, have been very differently explained. Cæsalpinus considered it rather as a medicine than as a common assistance to digestion; Boerhaave, as an absorbent for the acid of the stomach; Redi, as a substitute for teeth. According to Whytt, it is a mechanical irritation, adapted to the callous and insensible nature of the coats of the stomach. Spallanzani rejected all supposition of design or object, and thought that the stones were swallowed from mere stupidity. I think there is not much sagacity to be discovered in this opinion, when we consider that these stones are so essential to the due digestion of the corn, that birds grow lean without them, although they may be most copiously supplied with food. This paradoxical opinion has, however, been already refuted by Hunter and Fordyce. The use of swallowing these stones seems to me to consist in this, that they kill the grain, and deprive it of its vitality, which otherwise resists the action of the digestive powers. Thus it has been found, that if the oats and barley given to horses are previously killed by heating, the animal only requires half the quantity, and yet thrives equally.—(*Blumenbach's Comparative Anatomy, by Lawrence.*)

From the Lancet.

TWO CASES OF DISLOCATION BACKWARDS OF THE RADIUS, AT THE ELBOW JOINT. By C. J. M. Langenbeck, *Professor of Surgery and Anatomy, at the University of Gottingen.**

Dislocation of the radius backwards must be an extremely rare occurrence, since Sir Astley Cooper never met with this accident in the living, and only once in the dead subject. With the exception of the two cases which I am about to relate, I never met, during the whole course of my professional career, with a dislocation of the radius in any direction. Last winter, however, two persons were brought into the hospital with a luxation of the radius: in one case, the man was twenty years old, and the accident of six weeks standing; in the other, the injury occurred in a child five years of age the day before its admission into the house. In both, the symp-

* Langenbeck's Neue Bibliothek fur die Chirurgie und Ophthalmologie, vol. iv. pt. 3.

toms were so distinctly marked, that on the first inspection of the part, I recognised the nature of the injury before me. On an examination of the joints, the head of the radius was found thrown a little backwards and outwards from the external condyle of the humerus, and could not be immediately detected. The peculiar form of the radial side of the fore-arm, without displacement of the ulna, chiefly indicated the nature of the mischief. At the origin of the supinator radii longus, the extensores carpi radiales, and the other extensors from the external condyle, and the upper position of the radius, there was a marked prominence; the form was somewhat similar to what we meet with in rickety persons, in whom the radius is generally bent. The hand was prone, and could not be brought into a state of supination; the fore-arm was moderately bent, in which position it waa fixed, for the arm admitted of neither flexion or extension. On the inner side of the internal condyle, the skin was lax, and presented a depression, in which the internal articulatory surface of the humerus could be felt. On tracing the radius from below upwards, the finger came against the external condyle, behind which, in the adult, the articular circumference only of the head of the radius could be felt, and next to it the olecranon. On placing the fingers on the radius in this spot, and moving the bone as far as it admitted, the motion was also communicated to the finger. Behind and below the external condyle in the child, the glenoid cavity of the head of the radius could be felt.

Although the first dislocation was of old standing, attempts at reduction were made. The principal measure to be adopted, appeared to me a powerful but gradual extension of the fore-arm, in order, by this plan, to draw the head of the radius towards the articulating surface of humerus; at the same time, making counter-extension of the upper arm, I passed the dislocated head inwards. As in this case, very strong and long-continued extension was absolutely necessary; I could now completely stretch out the fore-arm, which before was not practicable, and thus push the head of the radius inwards. The limb was kept in this situation by splints and bandages, and the patient was soon able to move the fore-arm in the four directions, to a very considerable extent, and then left the hospital. In the child, moderate extension only, with pressure, was quite sufficient to to reduce the dislocation.

The dislocation of the radius in any direction so seldom occurs, that it may be interesting for a moment to inquire into the nature of the force necessary for the production of this accident, and the anatomical effects which result from the injury. The head of the radius is so completely protected and concealed on its outer and fore part, that the chance of displacement from force applied in these directions, is considerably diminished. The only situation, then, where the application of force is likely to effect displacement of the head of the radius, is in the palm of the hand, opposite to the muscles of the thumb; but in falling the whole palm of the hand generally receives the shock of the fall, which will then be communicated to the ulna, as well as to the radius; and the former bone being more easily dislocated, is that which commonly suffers.

When the displacement of the radius occurs, the orbicular, as well as the capsular ligament, will be lacerated, and very probably some of the superior fibres of the interosseous ligament. The latter may, perhaps, be stretched sufficiently to allow of the displacement, but the orbicular ligament will be invariably ruptured, of course assuming that the ulna remains in its situation.

From the Lancet.

OBSERVATIONS ON DISLOCATIONS OF THE THUMB.

By Henry Penneck, M. D. Penzance.

I have observed in one of your late Numbers, (vol. xii. p. 618.) that M. Lisfranc presented a preparation to the Royal Academy of Paris, in which there was observed an old dislocation of the first phalanx of the thumb, on the posterior surface of the bone of the metacarpus.

I am induced to remark, that though such great improvements have been made in surgery in our own times, the common treatment of dislocations of this kind still continues entirely unsatisfactory. This will be apparent to any one who will examine the latest and best authorities on the subject. To lose the service of so useful a member as the thumb, by abandoning the case, seems a trifle when compared with the chance of having the limb torn away, an accident which it would appear has happened, and if the power of the pulley should be applied to so small a part by unskilful hands, is not unlikely to happen again. I shall at first confine my remarks to dislocations of the second phalanx. The method commonly proposed for the reduction is to bend the dislocated bone over the first phalanx as its fulcrum even without the power of making a sufficient previous extension. But, although the phalanx may be displaced in four directions, this method is only applicable to one case, and even in that it must be attended with bad effects; for by compelling the dislocated bone to make a large sweep, the capsular ligament must be put greatly on the stretch; and in a case of a compound dislocation, which I am about to mention, such a practice might have so far increased the rent in the capsular ligament and integuments as to have rendered the amputation of the phalanx necessary.

Above forty years since, when an apprentice, I was sent to William Nicholls, a young farmer, residing at Boskennan, six miles from Penzance, who carrying a heavy basket was thrown from his horse. I found his left hand severely bruised, the second phalanx of his thumb dislocated on the back of the first, and the joint laid open by a wound in the integu-

ments and capsular ligament. After vain attempts to make an extension which the shortness of the part prevented; I hit on the following method, which fully answered my expectation, and I have since practised it with complete success. I took a piece of bleeding-tape and tied the middle part of it round the *first* phalanx, *letting it cover a part of the end of the dislocated bone,* and having the knot on the opposite side, I twisted both parts round my hand, and directing an assistant to support the patient's hand and fix the thumb, I made the extension and found the dislocated phalanx to pass readily into its place, when the tape slipped off and the operation was completed. I dressed the part superficially, which was soon healed; I do not recollect the after treatment. He resides at Plymouth; but is at present at Penzance. I have seen him to-day, examined the phalanx, which is well in its place, and though the joint is stiff, he has a useful thumb to this time. I think some other cases came under my care, of which I neglected to keep notes; but in January, 1809, Mr. Carne, of the Penzance Bank, was thrown from his horse, and dislocated the second phalanx of his left thumb. I saw him as soon as he returned home, there was no wound, and I reduced it by the use of the tape in an instant; by the common treatment it soon got well, and is as perfect as ever. I must observe, that if it had been a dislocation of the first phalanx, I should have applied the tape on the metacarpal bone. This method appears to me far better than pressing on the dislocated bone by the fingers, or bending it by the thumb; because by the tape the force is always applied in the right direction, and it carries the displaced bone straight on clear of the first phalanx; besides, it never distresses the joint by making a greater extension than is required to pass the bone into its proper place; whereas the other method of pressing on the phalanx by the fingers has a tendency to fix it on the back of the first phalanx, and to retard the reduction.

About seven years since I slipped off a hedge, and pitching my left hand on the ground, I dislocated laterally the second phalanx of my middle finger towards the little finger; as soon as I got home I procured a piece of bleeding-tape, had the middle of it tied round the first phalanx immediately in contact with the dislocation, and having spread out the tape so as *in part* to cover the end of the dislocated bone, the knot being made on the *opposite* side, I directed a person to twist the ends round his hand, and to make an extension whilst I resisted him, and with my right hand supported the part, and gave direction to the finger, which was instantly reduced, and with scarcely any pain. The part quickly got well, and is as perfect as ever.

In November, 1825, I was called to Mr. William Hawes, of the Star Inn in this town, who had dislocated laterally, towards the little finger, the ring finger of his right hand. I immediately reduced it in the same manner by the use of the tape, and it continues as well as ever; when the dislocated part is much bent the knot may be inconvenient if tied immediately opposite, unless the parts of the tape are kept sufficiently asunder by the introduction of two fingers, which, while the extension is making, will allow the dislocated part to rise up between them.

After the four cases which I have been enabled to state, I can with confidence recommend *this method* to the profession as *certain to reduce every case of dislocated thumbs, fingers or toes, in whatever direction the phalanx* may be *displaced,* with the *greatest facility,* and with *very little pain* to the patient.

I beg leave to suggest that the same method which I have used in reducing dislocations of the smaller, appears likely to be of use in assisting in the reduction of dislocations of the larger, joints. It may be advantageously applied to dislocation of the wrists, and to those of the knee-joint, in addition to the usual mode of making an extension; and even in some cases of dislocations of the thigh bone it seems very possible to use it with advantage, in addition to the methods so scientifically recommended by Sir Astley Cooper.

If we take a four-tailed bandage, and to prevent it from slipping apply two of the straps round the body under the spine of the ilium, and above the head of the dislocated thigh-bone, and cross them on the opposite trochanter, to be held by assistants, and bring down the other straps round the hip and fasten them to each other between the thigh and the pudendum; a pulley may be placed on the thigh, and whilst an extension is making, as soon as the strap can be brought to act on the trochanter of the dislocated bone, the pulley may be hauled in the proper direction, which will assist in bringing the head of the thigh-bone to the acetabulum.

I would also draw the attention of the profession to compression of the muscles as a mode of taking off or lessening their resistance to extension in cases of dislocation. It appears to me that the muscular fibre must always increase in thickness in proportion as it shortens in length. If we apply the hand on the biceps flexor cubiti, when the forearm is forcibly raised, or on the masseter when we strongly act with the jaw, we shall be sensible of the effect I have mentioned, and which I believe to be universal. When therefore a dislocation is about to be reduced, the reduction will be greatly facilitated by first placing the limb in a state of semiflexion, and taking off the action of the muscles as much as possible by the *will;* and then by compressing the muscles by means of a roller firmly applied on the limb we are about to extend, and by another roller, or other means, on the part from which the extension is about to be made, so that all the flexors and extensors, whether they arise from the first and are inserted into the latter, or whether they arise from the latter and are inserted into the former, by being prevented from increasing in thickness, may also be pre-

vented from shortening, and consequently from opposing the reduction of the dislocation.

Penzance, Oct. 26th.

From the Edinburgh Medical and Surgical Journal.

ON THE CAUSE OF DEATH AFTER THE LIGATURE OF THE EIGHTH PAIR OF NERVES.

Professor Mayer of Bonn has investigated this interesting subject experimentally; and he infers that, in almost every instance, unless some of the accidents presently to be mentioned intervene, death is owing to the blood in the heart and lungs losing its power of continuing fluid. If the animal, says he, dies soon after the nerves have been tied or divided, the cavities of the heart, and the arteries and veins of the lungs are found after death filled with a soft coagulum of black blood. But when death does not ensue for forty-eight hours or upwards, then the clots are firm, white, fibrinous, free from colouring matter, and they pervade the pulmonary vessels to their minute ramifications. These concretions, he thinks, are formed during life, and are the cause of death; and they are owing to the blood, in consequence of being withdrawn from the operation of the nervous influence, tending to separate into its proximate principles as it does after death. The value of the author's experiments is very much depreciated in our eyes by his not having stated the period after death within which these polypoid concretions were met with. It is well known that similar concretions are often found in the human subject, and though some pathologists believe they occur during life, nay are even sometimes the immediate cause of death, the more general doctrine is that they are a pseudo-morbid appearance altogether, and do not occur till after death. In order to prove that the concretions observed by Professor Mayer are not, as the phenomena now mentioned are generally conceived to be, the product of operations after death, he ought to have examined the bodies of the animals on which he experimented immediately after death, or rather when death was approaching. If fibrinous concretions are found in such circumstances it is unnecessary to point out the light which the observation will throw on many analogous pathological phenomena. In making experiments for ascertaining this point it is important to attend to the accidental causes of death which have been pointed out by the physiologist of Bonn. They are in the first place the passage of the food into the trachea, in consequence of the paralysis of the constrictor muscle of the cardia, and the muscles of the glottis; and secondly, a more rare accident, emphysema of the lungs and thoracic cellular tissue, probably caused by rupture of the bronchial mucous membrane during the violent efforts sometimes made to inspire.

Professor Mayer has farther made some valuable observations on other more subordinate effects which result from ligature or division of the eighth nerves. He agrees with the late experiments of Breschet, Vavasseur, and Edwards, who observed that, contrary to the statements of Wilson Philip, digestion is not essentially impaired. He found that the animal temperature was not diminished by the operation, or at least not nearly in proportion to the diminution of the breathing. But the most remarkable phenomenon he has mentioned, is the invariable and extraordinary discrepancy in the effects of the operation on the breathing and on the action of the heart; while the respirations are diminished in number to a half, a third, or even only a sixth of their natural frequency, the pulsations of the heart are doubled or quadrupled in frequency. The cause of this discrepance he thinks is, that the obstruction caused by the concretions in the pulmonary vessels necessitates an increased and more frequent action of the heart, in order that a sufficient quantity of blood may be transmitted through them.

From the Medico-Chirurgical Review.

DISEASES OF THE BREAST.

[St. George's Hospital.]

Nothing can be more important to the practitioner than to be able to distinguish true malignant diseases of the breast, from those morbid growths which appear indeed formidable, but which may be removed with comparative safety and success. An instance of this occurred not long ago at St. George's Hospital.

Ann Dale, æt. 75, was admitted April 18th, 1827, under the care of Mr. Brodie, with disease of the left breast, of which she gave the following account. Six years ago she noticed two small tumours in the axilla; in a few weeks there followed a swelling in the breast, which was attended with very slight pain, but at times a little thin, bloody discharge oozed from the nipple. The swelling proceeded slowly and with little inconvenience, save that occasionally it became red and painful, with slight hæmorrhage from the nipple. She applied to several surgeons, and all concurred in advising an operation. On admission the left breast was as large as a full-grown melon, the enlargement being evidently in the gland itself, and moveable upon the pectoral muscle and ribs, whilst a hard knotty process extended into the axilla, to all appearance an induration of one or more of the lymphatic glands. The tumour was irregular on its surface, having in parts a scirrhous hardness, in parts a doughy, miry feel, not exactly that of fluid; it was extremely heavy—not very painful on pressure—the cutaneous veins were full and tortuous, and in the situation of the nipple a livid looking fungus projected, discharging a little unhealthy pus.

She was affected besides with symptoms of inflammatory action within the chest, but otherwise had always enjoyed robust health,

and her appearance was not altogether unfavourable. She had been married and borne children—the catamenia had ceased long before the commencement of her complaint. By means of bleedings, and salines with antimony, &c. the chest affection was got under, and towards the middle of July she appeared neither unfit nor unwilling for the operation. The breast was accordingly, on the 19th July, removed with great ease. The bleeding was trifling, but wine was given to the patient to encourage it *at the time*, and all the vessels of the least size secured by ligature. The flaps of integument were brought together by sutures and adhesive straps, and pounded ice applied. On examination of the tumour, which weighed three or four pounds, it was found to be, as had been predicted by Mr. Brodie, neither true scirrhus nor fungus hæmatodes, but composed of a yellowish, transparent, jelly-like substance, contained in small cysts or compartments, formed by membranous bands or septa intersecting each other in all directions. In the centre of the tumour was a small cyst containing serum. For the next two days she went on very well, but on the 22d there was anxiety of aspect—pulse quick and evidently intermitting—surface hot —tongue inclined to brown. She had had since the operation only one scanty motion. 23d. With the aid of the senna draught, in a mixture of haust. salinus, antimonial wine, and tincture of hyosciamus, the bowels have been freely opened this morning. Pulse 126; intermits at every 10th beat—some anxiety and heat of skin. The dressings were removed for the first time, and the greater part of the wound was found to have united; just, however, under the head of the clavicle was a small, and rather painful tumour, apparently formed by coagulated blood. 25th. Pulse distinctly intermitting—anxiety—restlessness —some thirst—much pain in the upper part of the breast—tongue brownish. The wound was dressed, and looked not amiss, but the swelling above mentioned, being very painful, was lanced, and dark, semi-putrid blood, with some highly offensive matter evacuated. 26th. Relieved. 27th. Not so well to-day, there being another swelling below the line of the wound: it was punctured, and pus, mixed with a little blood, evacuated. From this time, all the bad symptoms rapidly disappeared; whilst, in consequence of opening the two or three small abscesses which had formed, the matter was prevented burrowing, and the adhesions which had taken place were preserved. At present, Aug. 20th, the wound is nearly healed—the cough is trifling—little or no expectoration in the mornings, in short, the good woman looks, and declares she really feels, "many years younger" than before the operation.

Remarks.—This case shows at what an advanced age these large tumours may be removed from a tolerably healthy patient, with success. The tumour was evidently not true carcinoma; for it was of considerable magnitude, was attended with trifling pain, and had not the stony hardness of cancer, besides which it had lasted for upwards of six years, without having gone on to mischief, which speaking generally, is not the case with carcinoma. In an excellent clinical lecture delivered upon the occasion by Mr. Brodie, that distinguished surgeon observed that he had removed several such breasts, and the patients had survived for many years afterwards, without any return of the disease.

In No. 205 of the Lancet, there is, we perceive, a case of fungoid disease of the breast related.

———, æt. 32, of spare habit, light complexion, and unhealthy appearance, was admitted into Guy's Hospital, under Mr. Morgan, with the right mamma enlarged to three times its natural size. The long axis of the tumour was from side to side, it was purplish, especially on the inner side; skin bright—cutaneous veins loaded—large subcutaneous veins ramifying over the tumour. The tumour was tense, harder in some places than others—very heavy and moveable upon the parts beneath. Axillary glands unaffected. The woman had felt a small lump in the breast for ten years or more, but the enlargement has assumed its present size and appearances within the last fourteen weeks. She had borne several children, and suckled them from this breast. Amputation was performed by Mr. Morgan, on the 28th July. The skin was so far affected, that it could not be saved; the wound was, therefore, dressed in with lint, and left to fill up by granulations. The tumour was enclosed in a dense capsule; it was firm at its base, but, at its circumference, there were small cysts, containing serum.

We know not whether this may be fairly styled a case of fungus hæmatodes of the breast, for, in fact, nothing is so difficult as to assign a name and classification to each tumour we come across. Whether it was or was not fungus hæmatodes, Mr. Morgan acted very rightly in removing it, for it bade fair to go on to the destruction of the patient, if let alone. Was the disease originally malignant, or was the "small lump" observed in the breast for ten years previously, a mere chronic enlargement, which, under particular or accidental circumstances, was converted and *ripened*, in so short a time as fourteen weeks, into a large and formidable tumour? The question is more easily asked than answered.

From the Lancet.

REMARKABLE DISEASE OF THE HEART.

Dr. Elliotson, in a clinical lecture delivered on the 10th of November, exhibited to the class a specimen of diseased heart of a very singular nature. In the first place, the pericardium was so coherent that there was in fact no pericardial cavity—here and there small portions of cartilage were seen upon the mem-

brane. The semilunar valves of the aorta, the *mitral* and the *tricuspid* valves, were all as much diseased as was compatible with existence. The aortic valves were so much thickened, that they stood and distended as they appear only when stuffed with wool in a preparation: the opening left through the valves was only about equal to the caliber of a large goose-quill. The *mitral* valve was still more thickened, being in truth converted into a solid cartilaginous mass, with a narrow longitudinal opening—a mere slit in the centre. The *tricuspid* valve was greatly thickened, and only a small opening of about the size of a silver penny-left in its centre, and apparently like the bicuspid was totally inefficient as a valve to prevent the retrogression of the blood. The whole of the lining membrane of the heart was thickened, and the valves of the pulmonary artery in a thickened and diseased state; and although not so extensively affected as the other valves, were evidently fast approaching to the same condition. The cavity behind each of the diseased valves was greatly increased—the *left ventricle* behind the aortic, the *left auricle* behind the mitral, and the right auricle behind the tricuspid. If any thing, there was an increase of muscularity to be observed, especially in the auricles; so that the thickness remaining the same, and the dilatation existing at the same time, there was really a great addition of substance—a *true hypertrophy.*

That the obstruction was clearly the cause of the dilatation was manifest, from there being no dilatation in the right ventricle, where the opening into the pulmonary artery was comparatively free; and, as Dr. Elliotson remarked, the origin of the disease was probably inflammatory, as the pericardium was so firmly coherent. The patient had suffered fifteen years previously from a very severe attack of rheumatism, and had frequently been affected with the same disease in a less degree. He was a shoemaker, was admitted into the hospital on Thursday, November 1st, and died on the following Monday—an interval of five days. He said that he had been unwell only five months; his face was thin and sallow; his legs and abdomen dropsical; the respiration was short and hurried, but he could take a deep inspiration without pain. He could walk about, but had such a tendency to syncope under the slightest exertion, that he was soon compelled to sit down: he had slight cough. It was not without great difficulty that the pulse at the wrist, or the action of the heart, was discovered; both were as faint as in a dying person; but on applying the stethoscope, although the impulse of the heart was scarcely perceptible, there was heard a loud noise over the fore part of the left ribs and their cartilages, and indeed all over the sternum, resembling the sound of a bellows in action—*bruit de soufflet.* It was heard at the moment of the contraction of the ventricles, and, of course, of the pulse.

As the patient complained of want of rest, Dr. Elliotson prescribed, on the day of admission, a dose of opium, to be taken at night, and half a drachm of the wine of colchicum three times a day. On the Saturday (the man having been admitted on Thursday previously) we saw him, in company with Dr. Elliotson; he was then lying in bed, on his back, with his head raised: he said that he had been freely purged, and was much easier; probably, as Dr. E. remarked, from the congestion which must have been present in all the abdominal veins, being lessened by the purging. However, subsequently to this, the dyspnœa became more and more urgent, and the man sunk, as we have before stated, on the fifth day.

Dr. Elliotson, in his clinical lecture, wherein he accurately pointed out the morbid appearances observable in the heart, remarked, that the smallness of the pulse undoubtedly arose from the circumstance of a small quantity of blood only being propelled into the aorta at each pulsation—the contraction of the aortic opening always having this effect. But he stated further, that the contraction of the left auriculo-ventricular opening produced the same effect, as in this case so little blood can enter the ventricle, although it may be that it can freely escape.

The small quantity of blood which entered the ventricles in the present case, he said, explained why the action of the heart could scarcely be felt. For this also there was another cause, namely, the dilatation of the left ventricle: for whenever a cavity of the heart is dilated, the impulse is proportionally diminished.

With respect to the peculiar sound heard through the stethoscope, Dr. E. said it was produced by the obstruction of the aortic valves; for if an opening of the heart is narrow, this peculiar noise is heard: but sometimes they are narrowed from temporary causes, as spasm, and therefore the sound does not prove the existence of structural disease. However, that when the noise is permanent, and combined with other symptoms of organic disease, then we may fairly infer, that the opening is lessened from structural change. If the contraction be at the openings from the ventricles, then the sound is heard at the ventricular action; if at those from the auricles, then it is heard at their contraction. In the case under consideration, the peculiar sound, as far as could be judged, arose during the action of the ventricles, and perhaps was heard all over the heart, from the great dilatation of the left ventricle; but as the heart beat very rapidly, and there was no interval after the ventricular action, it was difficult to say when the noise occurred. But Dr. Elliotson on this point further remarked, that he had been told, the enlargement of an orifice, or the inadequacy of a valve to do its duty, had the same effect—the blood regurgitating at each action into the cavity it had left. If this were really the case, there was probably a second reason for the noise, as the tricuspid

valve was unable to prevent regurgitation; and it also accounted for why the sound was loudest in the situation of the right ventricle.

The lungs in this case were of a dark red colour, heavy and solid, and discharged from every part, on pressure, a large quantity of frothy fluid.—*St. Thomas's Hospital.*

From the Edinburgh Medical and Surgical Journal.

ON THE NARCOTIC PROPERTIES OF CARBONIC ACID GAS.

Physiologists and toxicologists have long agitated the question, whether the deleterious properties of the carbonic acid gas are owing to its being a positive poison, or a simple asphyxiating gas; and it is important to determine the question, as some material conclusions result in regard to the treatment. The experiments and opinions of Bichat and Nysten had led to a general, but we have long thought an erroneous belief, that it is no more a poison than azote or hydrogen, and that it causes death simply by the exclusion by respirable air. The following experimental arguments contained in a paper by M. Collard de Martigny prove that it is a true narcotic poison.

1. If carbonic acid instead of azote, be mixed with oxigen in the proportion of the constituent gases of atmospheric air, animals cannot breathe it for a minute or two, without being attacked with all the symptoms of narcotic poisoning. If the proportion be even reversed, so that there are seventy-nine parts of oxigen, and only twenty-one of carbonic acid, the effect is similar. Nay, animals will die in a few minutes even in a mixture of atmospheric air and carbonic acid, which will support combustion; and persons have been taken out insensible from pits, where lights left behind them continued to burn. 2. Simple asphyxia, from the deprivation of air or substitution of hydrogen or azote, does not prove fatal to man in less than four or five minutes, to some other warm blooded animals in less than fourteen minutes, to fishes in less than an hour, to frogs in certain circumstances in less than five days. Now an atmosphere of carbonic acid gas kills the perfect animals in seventy seconds; water impregnated with it often kills fishes in the course of six minutes, and frogs in fifteen or twenty-five minutes; and the latter animals perish in an atmosphere of the gas in even a shorter time. 3. The narcotic symptoms caused by inhaling the gas may be also produced by its application to other surfaces, besides the pulmonary mucous membrane. Persons accustomed to live abstemiously have been intoxicated by drinking mere aerated water. If the body be enclosed in an atmosphere of carbonic acid gas, with due precautions for the maintenance of the breathing, the usual symptoms of poisoning with carbonic acid are produced,—sense of weight in the head, indistinct vision, pains in the temples, ringing in the ears, giddiness, exhaustion, an indefinable feeling of terror; and if this experiment be continued long enough, death will be the consequence, as M. de Martigny proved upon animals. 4. The symptoms caused by immersion in an atmosphere of carbonic acid gas are quite different from those caused by immersion in hydrogen or azote. If an animal is plunged in hydrogen for two minutes, it recovers in a few minutes either spontaneously or with the aid of insufflation of air. But immersion for that length of time in carbonic acid gas either kills it outright, or leaves it under symptoms of narcotic poisoning, which the most vigorous treatment does not always remove till many hours have elapsed. These arguments appear quite decisive of the positively poisonous action of the gas. The paper is closed with some judicious remarks on the treatment of poisoning with carbonic acid. The only novelties are a recommendation of ammonia and other stimulants in the form of injection in preference to any other way of applying them, and a denial of the danger mentioned in our last number as having been remarked by M. Leroy d'Etiolles to be caused by too strong insufflation of air into the lungs. M. de Martigny could never remark in dogs the dangerous effects of brisk insufflation noticed by the latter gentleman; and indeed, M. Leory has since acknowledged (Journ. de Chim. Méd. iii. 354.) that he was led into error in his experiments,—that the sheep is thus injured, but not the dog.—*Arch. Gen. de Med.*

FATAL EXHALATION OF BLOOD INTO THE STOMACH. (M. Adouard.)

Pathological anatomy has clearly proved that great effusions of blood may take place into the substance of the brain and the lungs —or into the cavities of the viscera, as well as of the thorax and abdomen, by a kind of exhalation, leaving no trace of ruptured vessel. The following is a remarkable example.

A soldier, of lofty stature, and sanguineous temperament, in the prime of life, became affected with tertian fever at Rome, during the French occupation, and was in the Military Hospital for cure. One day, when it was the period for the return of a paroxysm, he was seized with a strange sense of general malaise, and called out for the nurse. In a few minutes he fainted; and, on reviving from this, he threw up some blood from his stomach, and expired.

On dissection, the stomach was found distended by an enormous clot of blood; but the most careful examination could not detect the source of the hæmorrhage.

Some of the sudden deaths which we hear of, and which are not investigated by dissection, are caused in this way. Was the above congestion in the vessels of the stomach a fatal substitute for the ague paroxysm that ought to have occurred?—*Med. Chir. Rev.*

Medical and Philosophical Intelligence.

Chlorine in Hepatalgia.—Adopting the practice of Dr. Wallan, who has successfully employed this gas in the form of baths, in the treatment of cutaneous and bilious diseases, M. Julius relates three cases of hepatalgia, cured by its administration; we shall translate the first of them.

A woman, 56 years of age, had long employed for the disease above-mentioned, a variety of remedies, without experiencing, however, the slightest benefit. M. Julius, directed her to use daily, for the space of twenty minutes, a vapour bath of chlorine formed by mixing together, half an ounce of the peroxide of manganese, an ounce and a half of common salt, and one ounce of sulphuric acid, in the common fumigatory apparatus. The temperature varied from 32° to 36° Reaumer, and with some intermissions, this process was continued during seven weeks. The current of gas being particularly directed to the right hypochondriac region, the cutis over this part became red and was covered with a great number of minute pustules. During the fumigation, the patient experienced an intense itching, and a pricking sensation not unlike that produced by the bites of certain insects—the skin generally, was more soft and irritable than before. After each repetition of the process, the patient felt herself relieved. An alkaline, followed by an acid taste, was perceptible in the mouth, and litmus paper, moistened with the saliva, was changed to a red colour; the teeth and gums were slightly affected, and the region of the liver became so painful, that emollient applications were necessary. The health of the patient improved daily, and at the end of the time above indicated, she was entirely freed from her complaint.—*Journ. des Progrés, &c.*

Power of Imitation.——M. Pichon, attended some five or six months since, a woman in her first accouchment; her mother was present during the labour, which was both long and difficult. The latter aged forty-eight, and of a nervous constitution, had not menstruated during the last four years. The sufferings of her daughter induced in her acute pains, resembling those of parturition, which continued for a considerable time; four or five hours after the delivery, she was attacked with hæmorrhage, which continued at irregular intervals, for several days. The third day of its appearance, the mammæ were observed to be slightly tumefied, tender, and even painful to the touch, and a milky fluid flowed from the nipple. This state of things continued five or six days, when the hæmorrhage ceased, the irritation of the breasts subsided, and all the anomalous symptoms disappeared. A similar instance, has recently been communicated by Dr. Paillard, to the Societé de Médecine pratique de Paris.—*Journal des Progrés, &c.*

Iodide of Sulphur.—Dr. Biett, has made some observations at the hospital Saint Louis, on the external employment of this article in pustulous, papulous, and scaly affections of the skin. In order to render his experiments the more conclusive, no other remedial measures were used, with the exception of such as were necessary in certain cases, to diminish the irritation of the skin, and reduce it to a state, in which stimulating applications could be made without danger. From his experiments he has been led to hope, that the iodide of sulphur will be found one of our most valuable therapeutic agents in the treatment of obstinate cutaneous affections. Much care however, is necessary in its employment. Dr. Biett directs it to be combined with adipose matter, in the proportion of one-twenty-fifth, twentieth, or sixteenth part, according to circumstances, and applied in frictions to the diseased surface. These iodides, the deuto-iodide especially, placed in contact with the sound skin, evince their stimulating property, by the pain and inflammation which they occasion. It has been successfully employed in many cases of psoriasis, porrigo favosa, acne rosacea, &c. &c.—*Journal des Progrés.*

Amputation of the Maxilla Inferior.—In a memoir, by Professor Delpech, recently read before the *Institute royal de France,* this eminent surgeon adverts to an accident of a serious nature, sometimes attending this operation. It consists in a retraction of the tongue, occasioned chiefly by the glosso-pharyngei muscles, which no longer counterbalanced by the genio-glossi, draw this organ downwards and backwards to such an extent, as to prevent the entrance of air into the larynx, thus occasioning suffocation. Several German surgeons, have been so much alarmed by this accident, that they have found in it, a sufficient reason for rejecting the operation altogether. According to M. Delpech, it is most effectually prevented by procuring the immediate reunion of the divided parts; the re-establishment of the connexion between the genio-glossi and the remaining portion of the maxilla, or any other fixed point, is the means employed by nature for this purpose, and art cannot do better than imitate her; this is best effected by including the genio-glossi muscles in the suture. In a few hours, the adhesions will be, in general, sufficiently strong, to prevent the possibility of the accident.—*Revue Médicale.*

Affusion of Cold Water in Croup.—Dr. Baumbach relates a case, in which he adopted the above practice, in conjunction with Harder of St. Petersburgh. A girl, 11 years of age, had been labouring under croup for 15 days; on the 16th, the extremities were cold, countenance hippocratic, respiration labori-

ous, and performed in starts; the cough had ceased for the last twenty-four hours, and the death of the patient was momently expected. Cold water, of the temperature of 12° Rheumer, was poured from the height of a foot, along the vertebral column from the occiput to the sacrum; the affusion was continued longer upon the dorsal vertebræ than elsewhere. The râle ceased immediately, in a short time the cough re-appeared, and a large quantity of false membrane was expectorated. The child fell into a quiet sleep which lasted ten minutes, and her situation appeared quite promising. After the lapse of two hours, there was a renewal of the symptoms, and the same treatment was pursued, and with equal success. The disease however, continued to recur, and the patient died the next day.—*Bull. Univ. from Rust's Magazine.*

Employmeut of Ice in Puerperal Fever.—Dr. Jagielski of Posen, has employed this remedy in two instances; in one of them, four days had elapsed since the accouchment of the woman, she was in a state of great prostration; intense thirst; incessant vomiting; abdomen distended and extremely tender to the touch; countenance hippocratic; pulse small, frequent and intermitting; the lochia had been arrested for the last forty-eight hours. 16 ounces of blood were drawn from the arm, ice applied over the abdomen, and the same article directed to be freely administered internally. There was a marked melioration at the expiration of three hours; the vomiting and thirst ceased, and there was a diminution of the tension and tenderness of the abdomen. The patient slept in the evening, and the employment of the ice was directed to be limited to its external application. The following morning she was much better, having perspired during the night; the lacteal secretion made its appearance; the lochia returned somewhat later, and at the end of four days her health was re-established. In the second case, the employment of the ice, preserved the life of the patient, unassisted by venesection or any other remedy.—*Bull. Univ.*

Pilimixtion.—M. Patissier read to the Academy, a report upon a case transmitted by M. Boyer, chef de Clinique de la Faculté de Médecine of Montpellier, and which was presented in the first instance, as a case of this disease. A woman, 24 years of age, was attacked, in her second pregnancy, with acute pain in the region of the bladder, accompanied with frequent desire to evacuate the contents of this viscus, and the discharge of a turbid, purulent urine, mixed with hairs, some of which were loaded with saline concretions. She was delivered at the usual period, but the discharge of hairs still continuing, her husband, with the assistance of a blunt hook of brass wire, extracted a considerable quantity, which relieved her considerably. M. Delpech, in whose presence this operation was performed, suspected the existence of calculi, and made an incision through the anterior part of the urethra, which enabled him to remove a small calculus and several masses of hair; more escaped with the injections thrown into the bladder, and upon manual examination, another congeries was discovered, and extracted by the forceps. From this period, the patient became gradually better, and was supposed to be entirely cured, when at the expiration of two months, there was a renewal of the pain and discharge of hair; the bladder was again examined, and a large body extracted, as large as a hen's egg, consisting of a piece of skin in which hairs were implanted, and an osseous mass, bearing a strong resemblance to the zygomatic process, and presenting an alveolus furnished with a small molar tooth—there was not the slightest appearance of putrefaction.

It was then ascertained that it was not a case of pilimixtion, the existence of which disease is doubted by some authors, but the excretion of an imperfectly developed germ, which was supposed by M. Delpech, to have found its way from the uterus, into the bladder.

Some time ago, M. Magendie described, under the title of *Gravelle Pileuse*, a disease which appears to have been a true case of pilimixtion, characterized by the deposition of a white powder mixed with an immense number of minute hairs, varying in length from two lines to an inch or more. At other times, the gravelly particles were larger, unequal, readily yielding upon pressure and connected by the hair in such a manner as to resemble a bunch of grapes. Analysed by M. Pelletier, they were found to consist of phosphate of lime, with a minute quantity of phosphate of magnesia and uric acid. M. Magendie attributes this disease to the immoderate use of animal food, for which he recommends the substitution of a vegetable diet, and alkaline beverages. The following case also, related by Tulpius, appears to have been a case of this disease.

"Filius consulis Hermani afflictus quatuor amplius annos à capillorum mictu qui identidem revertebatur quolibet decimo quarto die, cum insigni urinæ difficultate, et tanta perturbati corporis inquietudine ut vix se contineret in cubili, æquantibus singulis pilis, modo medium, modo vero digitum integrum, sed nunc ita involutis, ut raro separatim, sed pleurumque prodierint conglobatim. Durante qualibet accessione dies ferme quatuor: in quibus licet continenter, et moleste redderet urinam: transegit tamen reliquos dies, sine ullo cruciato, ullove capillorum mictu, usque dum postliminio repeteret, consueta reciprocandi ratio."—*Journ. Gén. de Médecine, &c.*

M. J. Cloquet relates the following curious case:—An old man, living in a state of great poverty and wretchedness, subject to an habitual discharge from the ear, and having a suppurating eruption on the head, entered the Hôpital Saint Louis, having slept a few days before, in the neighbourhood of some

putrifying animal bodies. He was in a state of complete somnolency; the palpebræ, red, œdematous and greatly tumefied, and the whole surface of the scalp covered with an immense number of worms, enveloped in a fetid, sanious pus. They had perforated and separated the scalp to a great extent, and were agglomerated in several places, so as to form three voluminous tumours beneath the skin. They were also discharged in great abundance from the nose, ears and inner part of the palpebræ.

These worms were the larvæ of the *musca carnaria;* it was found that they had perforated the cornea and penerated into the interior of the eyes; several of them were extracted with the cystalline lens of the left side; they had also perforated the integuments lining the auditory passages, and insinuated themselves beneath the skin of the neighbouring parts. Twenty or thirty were found beneath the prepuce, which was much inflamed. Mercurial frictions were successfully employed in the treatment of this singular affection, but the patient remains in a state of complete blindness.*—*Jour. Gen. de Medecine.*

Imperforation of the Vagina.—The subject of this case had always enjoyed good health up to her 14th year; at this period she was suddenly attacked with severe cōlic pains, which yielded only to a copious hæmorrhage from the nose. The colic re-appeared at first every month, subsequently every fifteen days, and at a later period, every day, accompanied by hysterical symptoms. A variety of means were adopted, opium, musk, camphor, &c. but without making any impression on the disease. Ultimately malformation was suspected, and M. Villaume being called in, made an attentive examination of the genital parts; the abdomen was as large as that of a woman in the sixth month of utero-gestation, and a hard, renitent and pyriform tumour, could be felt extending from the right hypochondrium, to the left iliac region; the external parts of generation were well formed, the hymen was present, but the vagina was entirely wanting, a mass of cellular tissue, could be felt by the finger introduced into the rectum, occupying its place.

The patient, 16 years of age, was above the ordinary size and well formed, but in such a state of exhaustion, that it appeared as if she could not survive many days.

Death being inevitable unless some operation were instituted for her relief, M. Villaume passed a sound into the bladder and gave it to an assistant; another introduced his finger into the rectum and depressed this intestine towards the sacrum; between these two points, an incision was made, carefully avoiding the bladder and rectum, to the depth of two inches, when it terminated in an empty space. The uterus being distended, and inclining to the right, M. Villaume, endeavoured to restore it to its natural position, but failing in the attempt, he introduced a pharyngotome into the bottom of the incision and carrying it onward in the direction of the vagina, penetrated the uterus. A small quantity of thick, inodorous blood escaped from the puncture; it was discharged in greater abundance some hours after, when the patient was placed in the warm bath. This was repeated in the evening, and a dossil of lint introduced into the opening. The inflammation was subdued by the application of leeches, but the pain continued and did not cease until after the discharge of a considerable quantity of fœtid blood through the wound. From this period, the improvement was progressive; at the expiration of a month, the newly formed canal was entirely cicatrized, and with the aid of a gum-elastic canula was maintained of a size, capable of admitting the little finger. Two years have elapsed since this operation and the patient continues to enjoy good health, with the exception of some little irregularities in the menstrual evacuation, and an abundant leucorrhœal discharge.

M. Villaume relates also, a case of imperforate anus in a child, nine days old; the fæces were discharged through the urethra. As the child was large and strong, he was at first desirous of avoiding an operation; but four days after, the evacuation of fæces through the urethra having ceased, and the abdomen becoming distended, he passed a trocar along the sacrum in the direction of the intestine; no fæces appearing, a longitudinal incision was extended to the coccyx, from the bottom of which, a puncture was made into the rectum. The fæces now resumed their natural course, and a gum-elastic catheter was introduced to prevent the closure of the opening; but this exciting the cries of the child, it was withdrawn by the parents, the fistula contracted, and the alvine evacuations were again made through the urethra. The child, nourished by its mother, continues to do well, but M. Villaume anticipates a fatal termination when it begins to use solid aliment.—*Arch. Gen. de Med.*

Scammony.—MM. Chomel et Ollivier d'Angers, have made some experiments with this article, deprived of its colour by animal carbon, from which it appears, that this decoloration has no influence upon its purgative qualities; these are supposed by M. Planche to reside in its pure resin, which is therefore less active than that of jalap. Given in large doses to dogs, it produces like other poisonous irritants, an intense inflammation of the mucous membrane, especially in the neighbourhood of the pylorus and rectum.—*Nouv. Biblioth. Méd. &c.*

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* At a late meeting of the *Academie royale,* M. J. Cloquet announced that the unfortunate subject of the preceding case had since become insane, owing, probably, to the insects having found their way into the brain either through the orbitary foramen or sphenoidal fissure.

Combination of Oxides with the Essential Oils.—M. Bonastre presented to the Academy, a specimen, formed by the direct union of equal parts of the protoxide of lead and the essential oil of cloves; this combination forms a consistent homogeneous mass, which resists the action of the caustic alkalies, though it is decomposed by the diluted sulphuric and muriatic acids.—*Nouv. Biblioth. Med.*

Lithotrity.—M. Civiale has recently performed this operation upon two patients at the *hospice de perfectionment;* the first, was a child seven years of age, and had suffered from the stone for the last twelve months; flexible bougies were placed in the urethra, some time before the operation, and when they were withdrawn, M. Civiale readily introduced a *lithotriteur* two linesi n diameter; the stone, which appeared to be about the size of a filbert, was seized without difficulty, and although composed of oxalate of lime was friable. At the expiration of the third day, a small fragment was extracted from the urethra, and the operation being continued at intervals of two days, the cure was speedily completed. The second was an old man of sixty years, who had been cut for the stone at the age of twelve, and still laboured under a fistula resulting from the operation. He had been afflicted with the disease the second time, for about fifteen months, and was cured by M. Civiale in five sittings.—*Arch. Gen. de Médecine.*

Organization and Functions of the Spleen.—M. Strauz having made some microscopical experiments upon the filaments composing the fibrous net-work of the spleen of an elephant, was unable to discover in them the distinctive characters of the fibrous or vascular tissues. Several of these filaments, some of which were half a line in diameter, were opened, and instead of being permeated by canals as he had anticipated, he remarked that they contained a pulpy matter, analogous to that of the brain, and from this circumstance has been induced to consider the spleen as a plexus depending upon the ganglionic nervous system. M. Julus Artaud has been induced to repeat the experiments of this learned naturalist, in order to ascertain the truth of his hypothesis;—the following are the principal conclusions to which he has arrived.

1st. In the vertebrated animals, the existence of the spleen is uniformly connected with that of the nervous system.

2d. The spleen is not distinctly seen till the second month of utero-gestation, at which period, in the human fœtus, the ganglionic system first begins to be visible.

3d. The spleen follows all the phases which age, the degradation of the inferior animals, and monstrosities occasion in the nervous system.

4th. In unequivocal cases of acephalus, the spleen is invariably wanting.

5th. Substances which stimulate particularly the nervous system of organic life, act also, very energetically upon the spleen, which becomes tumefied under their influence.

6th. The tissue of the spleen, which M. Artaud calls *nervous,* preserves, when macerated in pure water, the density which it had previously acquired in a mixture of seven parts of this fluid and one of nitric acid, while the vessels which enter into its composition, soften and putrify. In this experiment, the fibrous envelope of the spleen should be removed, and the blood washed away by repeated ablutions, from the meshes peculiar to this viscus.

7th. M. Artaud considers himself justified by numerous facts, in referring to an alteration of the spleen, an order of intermittent fevers, which have hitherto been supposed to belong to the class of neuroses.

8th. Finally, he thinks he has shown from experiments and facts drawn from comparative anatomy, that the spleen is an electrical apparatus, impressing upon the blood a modification, to be more fully developed in a memoir which he proposes to read before the Institute, and which will also contain the outlines of a new theory of the nervous system.—*Nouv. Biblioth. Médicale.*

Catacausis.—Ch. Asm. Rudolphi, relates in the *Grundriss der Physiologie,* Band., I. page 212, a case of this singular disease occurring partially. A man was suddenly seized with pain in the arm, and immediately afterwards, perceived a spark, which burnt his shirt. The *Litterarischen Annalen der gesamm. Heilkunde,* for August 1825, contains an analogous instance occurring in a young woman seventeen years of age. A blue sulphureous flame appeared around the finger; it was inextinguishable by water; burnt the coverings placed upon the part, and was visible only in the dark. The intensity of the pain occasioned the formation of vesicles. The patient was isolated, but no indications of electricity were obtained by the best electrometers.—*Journal de Pharmacie, &c.*

Effects of Oil of Croton on the Eye.—M. Commensuy of Rheims, accidentally received a few drops of the oil of croton in the eye: he washed it plentifully with water, but notwithstanding this he suffered extreme pain, and in less than a quarter of an hour his eye became very much inflamed, as well as the side of the face; he suffered noise in the ears and a kind of vertigo, for he could not stand without the fear of falling. He suffered horribly during fourteen hours; but by the application of leeches, &c. the inflammation was reduced, and in a week he was able to attend to business, the eye remaining only a little weak.—*Journal de Pharmacie.*

Chlorocyanic Acid.—M. Serullas has obtained this compound, which he terms cyanuret of chlorine, in a separate state, and perfectly pure, with great facility, by the following process. Moisten cyanuret of mercury with chlorine, stop the flasks, and put them in a dark

place; in eight or ten hours the contents are entirely converted into perchloride of mercury and cyanuret of chlorine. This compound is extremely deleterious; very soluble in water, and still more so in alcohol: it suffers no change in these fluids, and may be separated from solution in water by passing it over chloride of calcium into bottles placed in a freezing mixture, where it becomes solid.

One of the most remarkable properties of the cyanuret of chlorine, is that of crystallizing in long transparent needles at 0° Fahr.; and at about 20° or 25° above this it becomes liquid, or under a pressure of four atmospheres, and it remains so in tubes hermetically sealed.

When bottles containing cyanuret of mercury, either moistened with or dissolved in chlorine, are exposed to the sun's rays, no cyanuret of chlorine is obtained; but instead, if a yellow oily fluid is formed, which is denser than water, and which is probably a mixture of chloride of azote and protochloride of carbon, it is readily converted by heat into azote, carbonic acid, muriatic acid, and perchloride of carbon. Without the assistance of heat the same effects are produced, but very slowly; it yielded by analysis an atom of chlorine and one of cyanogen, which is the same composition as that stated by M. Gay Lussac.—*Ibid.*

Examination of Cinchalona.—M. Tilloy of Dijon states that in 1825 about 500 pounds of *Kina Kalissaya* were imported into France: it was fine in appearance, very distinctly bitter, and by analysis yielded the same proportions of colouring and fatty matter as in good bark of the same kind; but it yielded no quina. M. Tilloy gives the following as a ready process for determining whether bark contains quina. Take one ounce of bark reduced to coarse powder, and put it into twelve ounces of alcohol of sp. gr. 867, and heat to about 110° or 120° for an hour; pour off the alcohol, repeat the digestion with fresh alcohol, mix the liquors, and add acetate or sub-acetate of lead sufficient to precipitate the colour of the kinic acid; set it by, filter, add to the liquid a few drops of sulphuric acid to separate the lead of any acetate which may have been used in excess; filter and distil: there remains sulphate or acetate of quina, according to the quantity of sulphuric acid employed, mixed with a fatty matter, which adheres to the vessel, pour off the solution and add ammonia to it, which immediately precipitates the quina; but if it be added in excess, it re-dissolves the quina, but a little sulphuric acid will again precipitate it. The quina washed with warm water, treated with sulphuric acid and a little animal charcoal, gives very white sulphate of quina; in six hours M. Tilloy obtained nine grains of sulphate of quina from an ounce of bark.—*Ibid.*

Ulceration of the Hepatic Duct.—The gall bladder was much enlarged; several calculi were found in the ductus choledichus, and one of considerable magnitude completely obstructed the hepatic canal, which presented a short distance below the calculus, a small ulceration, through which the bile was extravasated into the cavity of the abdomen, producing peritonitis; the abdomen was filled with a fluid of a deep yellow colour, mixed with flocculi of coagulable lymph.

M. Amussat infers from his physiological and anatomical researches on the biliary apparatus; 1st, the existence of muscular fibres in the gall bladder, and biliary ducts; 2d, the cystic duct contains a spiral valve, whose office it is, to promote the ascent of the bile from the hepatic canal into the gall bladder, and to oppose its sudden exit from the latter; 3d, the narrow and conoidal termination of the ductus choledichus tends also to produce this effect, as has been demonstrated by M. Amussat, by injecting water through the hepatic canal; 4th, the excretory duct of the pancreas uniformly opens into the ductus choledichus and not into the duodenum.—*Annal de la Méd. Physiol.*

Peculiarity in the structure of the ductus communis choledochus and of the pancreatic duct in man. By John Davy, M.D., F.R.S.—The peculiarity noticed by the author, consists of a valvular apparatus formed by delicate angular processes of the mucous coat of the lower part of the *ductus communis choledochus* and of the pancreatic duct; which he detected by slitting open these tubes under water, and washing off the adhering mucus. The effect of this structure is to prevent any retrograde motion in the fluids conducted by these tubes: and although a very delicate probe may be made to descend through the ducts with facility, its passage in the opposite direction is arrested by the *sacculi* which are formed by the processes of the inner membrane. This structure is not met with either in the sheep or in the ox, in which animals there is no junction of the biliary and pancreatic ducts.—*Phil. Mag.*

Tyrian Purple.—M. Lesson read to the Academy, a note on the shell fish, which furnishes the famous purple of Tyre. This molluscus, is the *janthine* of the Mediterranean, *janthine fuscicéphale* of Péron, millions of which, swim upon the surface of the water, and discharge from a vessel, situated along the back, a glutinous liquid, of a beautiful violet-rose colour, which reddens under the action of acids, and changes to a green when treated with alkalies. The *murex chicorée*, according to M. Lesson, furnishes also, one of the species of purple employed by the ancients.—*Arch. Gén. de Médecine.*

Taliacotian Operation.—Professor Delpech of Montpellier, has twelve times performed this operation, and from his experience has drawn the following conclusions.

1st. That from the difference of structure between the skin of other parts of the body and that of the forehead, the latter alone should be used in the formation of a new nose.

2d. That the existence of two branches of the ophthalmic artery in the angle of the frontal segment, is a great advantage, preserving its vitality, till it has contracted adhesions with the parts beneath.

3d. The most advantageous form for the segment, is that of a trident, which permits the approximation of the edges of the wound, and its conversion into a linear cicatrix. M. Delpech employs sutures for this purpose, and thinks that they are too much neglected at the present day.

4th. In order to adapt the segment to the margin of the nasal fossæ, M. Delpech pares off the extremities, and effects the union through the medium of sutures.

5th. M. Delpech commences by denuding the margin of the nasal fossæ, and does not hesitate, if necessary, to expose the remains of the cartilage; he deprecates, particularly, the introduction of any foreign substance beneath the segment, as liable to excite violent inflammation and gangrene.

6th. When the part has entirely cicatrized, the summit of the segment is next divided.

7th. In consequence of the greater extension of the segment, which M. Delpech sometimes continues into the hairy scalp, the circulation is less liable to be interrupted by the contortion at its summit, and when the latter is divided, it is susceptible of a more elongated form, which much diminishes its unseemly appearance.—*Journ. Gén. de Médecine.*

A child who had retired to rest apparently in good health, awoke suddenly in great alarm; furious delirium made its appearance, followed by convulsions and death during the day. On dissection a perforation of a fringed form, *unaccompanied with any traces of inflammation*, was observed in the great curvature of the stomach; the alimentary matter extravasated into the cavity of the peritoneum was examined, but gave no indications of poison.—*Compte rendu de la Soc. de Méd. de Bordeaux.*

Transposition of the Viscera.—The following case occurred to M. Serres at the hôpital de la Pitié—the apex of the heart was directed to the right side, the left and posterior ventricle was situated anteriorly, inclining to the right, the other had of course an opposite aspect; the curvature of the aorta was found on the right side, and here also originated the primitive carotid, while the arteria innominata arose to the left. The right lung had only two lobes, and descended considerably lower than the left, which was composed of three. The liver was found on the left side, the spleen on the right, and the same change of position was observed in relation to the great *cul de sac*, and pyloric orifice of the stomach. The duodenum was situated on the left side, with its concavity turned towards the right hypochondrium. The cœcum and ascending colon were also found on the left, while the descending colon and sigmoid flexure were situated on the opposite side. This case of malformation, bears a strong analogy to that observed by Morand, and which Saviart has recorded in his *Recuil d'Observations Chirurgicales*, page 389. M. Serres has had the subject injected, in order to preserve it.—*Nouv. Biblioth. Méd. &c.*

Fracture of the Femur in the Uterus.—M. Schubert relates the following case, interesting as connected with legal medicine. A woman was delivered prematurely of two malé children, in one of whom, there was a fracture of the femur which had occurred in the uterus; the fractured bone was in a carious condition, and projected through the skin, more than an inch. Six weeks previous to her accouchment, the mother had perceived, during the motions of the child, a sound like that occasioned by the fracture of a stick, and had ever since complained of pain in the abdomen, similar to that occasioned by the pricking of a sharp instrument. Dr. Oswald supposes that this accident can only happen in cases of twins.—*Zeitch. für Staatsarz. von Henke.*

Putrefaction of a living Fœtus.—A woman who had given birth to a healthy child, some years before, was again attacked with the pains of parturition, which progressed regularly; upon the rupture of the membranes there was a discharge in small quantity of a thick and very fetid fluid, of a blackish green colour; more of which, followed the birth of the child. The latter was very feeble, respired with difficulty and appeared to be in a state of stupor; it soon however, revived in a surprising manner, notwithstanding the cadaverous aspect of the skin, and the flabby condition of its muscles. The umbilical cord was soft and presented a greenish yellow colour, as did also the membranes and internal surface of the placenta, which were discharged immediately after the birth of the child—all these parts possessed the same fetid odour as the fluid above mentioned.

In relation to the child, which was placed in a warm bath, it was remarked that the epidermis was detached upon the slightest contact; from the hands and feet especially, it could be removed in a continuous layer. The skin in these places was soft, corrugated, and very red. The epidermis was gradually detached from the whole surface, and at the expiration of fourteen days from her accouchment, the mother and her child left the hospital in a state of perfect health.

Several similar cases have fallen under the observation of Professor Nagele.—*Zeitsch. für Staatsarz.*

Poisoning from Fishes.—In addition to the facts already known relative to the deleterious nature of certain fishes, M. Chevallier relates the following. M. Saubinet, commander of the brig Le Zélé, while about two hundred leagues from Cape Hayti, harpooned a beautiful fish of the species *Béguore*, which he di-

rected to be served up for dinner. Himself and four others who ate of it, were attacked with an illness, which speedily assumed an alarming character; the skin became inflamed and burning, an universal paralysis seized upon the extremities, and they were incapable of performing the slightest motion. A hog, to which the fish had been thrown, died in a few moments after eating it.—*Jour. de Chimie Médicale, &c.*

Analysis of a Salivary concretion.—The calculus was of an oval form, slightly rough exteriorly, and composed of two lamina, the interior hard, compact and of a grayish colour, the other more friable, and perfectly white. Seventy-five parts in the hundred, consisted of phosphate of lime, twenty of the carbonate, and with a slight allowance for loss, animal matter formed the remaining five. This concretion differs from those previously analyzed by MM. Wollaston, Saugier and Henry; from the first, by the presence of carbonate of lime; from the second, by the absence of carbonate of magnesia; and from the third, by the absence of carbonate and phosphate of magnesia, and muriate of soda. Its composition, on the contrary, is analogous to the salivary concretions of the horse, elephant and cow, as analysed by M. Lassaigne.—*M. Lecanu. Jour. de Pharmacie, &c.*

Effects of heat upon sulphur.—According to M. Dumas, fused sulphur begins to crystallize between 226° and 228°; between 230° and 284° it is as liquid as a clear varnish, and of an amber colour; at about 320° it begins to thicken, and acquire a red colour; on increasing the heat, it becomes so thick, that it will not pour. This effect is most marked between 428° and 572°; the colour is then a red brown: from 572° to the boiling point it becomes thinner, but never so fluid as at 248°; the deep red brown colour continues till it boils. When the most fluid sulphur is suddenly cooled, it becomes brittle; but the thickened sulphur similarly treated, remains soft, and more soft as the temperature has been higher. Thus at 230° the sulphur was very liquid and yellow; and cooled suddenly by immersion in water, it became yellow and very friable; at 374° it was thick, and of an orange colour; but by cooling became at first soft and transparent, but soon friable and of the ordinary appearance: at 428° it was red and viscid; and when cooled, soft, transparent, and of an amber colour; at the boiling it was of a deep brown red colour; and when cooled very soft, transparent, and of a red brown colour. It is not necessary, as is sometimes stated, to heat the sulphur a long time to produce this effect; all depends upon temperature. The only precaution necessary is, to have abundance of water, and divide the sulphur into small drops or portions, that the cooling may be rapid. If it be poured in a mass, the interior cools slowly, and acquires the ordinary hard state. When the experiment is well made at 446°, the sulphur may be drawn into threads as fine as a hair, and many feet in length.—*Annals de Chimie.*

Electricity of Gases and the Atmosphere.—M. Pouillet concludes from numerous experiments: 1st, That gases give out electricity, when they combine together, or when they unite with solid or fluid bodies; and in these combinations, oxygen always gives out positive electricity, and the combustible body, whatever it may be, gives out negative electricity; and reciprocally, when a compound is decomposed, each of the elements then requiring the electricity which it had given out, is in the opposite state of electricity. The reciprocity shows in what consists the difference of the nascent state of a body from its ultimate condition.

2dly. The action of vegetables upon the oxygen of the air is one of the most permanent and powerful causes of atmospheric electricity; and when it is considered on one hand that a gramme (about 15.5 grains) of charcoal, in becoming carbonic acid, gives out sufficient electricity to charge a Leyden jar; and on the other hand, that the charcoal which is contained in vegetables does not give out less electricity than charcoal which burns freely, one may conclude, says M. Pouillet, as my direct experiments tend to prove, that over a surface of vegetation 100 metres square, more electricity is produced in a day, than is necessary to charge the strongest electrical battery.—*Annals de Chimie.*

Essential Oil of Copaiba.—M. Dublanc is at present occupied in the composition of a memoir, to be read before the Royal Academy, upon the chemical properties and medicinal effects of this article. From the facts which have fallen under his observation, it appears, that it operates more quickly, and in a smaller dose, than the balsam in its natural state, while it does not so frequently irritate the stomach. In thirty-three gonorrhœal patients, to whom it was exhibited at different periods of the disease, the average term required for the cure was about five days. Like other preparations of copaiba, the essential oil occasionally operates upon the intestinal canal, so as to injure, in some measure, its remedial powers—this effect M. Dublanc has obviated by the following formula. Sirup of tolu, two ounces; mint water, alcoholate of the essential oil of copaiba, each three ounces; opium, one grain. From three to six table spoonsful of this mixture to be taken during the day.—*Nouv. Biblioth. Med. &c.*

Duration of Pregnancy.—In a paper in the recently-published volume of the Medico-Chirurgical Transactions, Dr. Merriman has given some tables calculated to assist in throwing light on the mean duration of utero-gestation. We say the mean duration, for we have no doubt that nature in this, as in many other instances, deviates occasionally, and to

a considerable extent, from her own general laws.

Of the births of 114 mature children, calculated from, but not including, the day on which the catamenia were last distinguishable, 3 happened in the 37th week—13 in the 38th week—14 in the 39th week—33 in the 40th week—22 in the 41st week—15 in the 42d week—10 in the 43d week—and 4 in the 44th week.

From this table, our author thinks it fair to infer, that conception is effected soon after the catamenial period has intermitted, rather than immediately before the expected return of that period. A knowledge of this fact, he says, is useful on many occasions, and is of paramount importance, by enabling the accoucheur to fix upon the proper time for inducing premature labour in cases of deformed pelvis. Our experienced author has seen a very few cases where the period of delivery (calculated from the last appearance of the catamenia) exceeded 44 weeks, or 308 days; and of these few anomalous cases, he has given some details in the paper above mentioned —*Med. Chir. Rev.*

Human Ovum.—M. Velpeau has been lately engaged in investigating the human ovum, the results of which are,—

1st. That the membrana decidua exists in the uterus of the female in the form of a closed sac, until the arrival of the ovum.

2d. That it is always filled with a limpid, rosy liquid, of a thread-like and gelatinous texture.

3d. That it is reflected in the uterus and around the ovum, in the same manner as serous membranes.

4th. That the epichorion, distended by the germ's growth, ultimately comes in contact with the decidua uteri.

5th. That the two layers are not united.

6th. That it is not organized.

7th. That its use is to surround the placenta and to fix the ovum in the uterus.

8th. That it is found, but with different modifications, in most vertebrated animals.

Aneurism of the Carotid, in which the Artery was tied beyond the Tumour.—The aneurism, which had originated in the root of the right carotid artery, extended up nearly to the os hyoides, and formed a tumour of prodigious size, which, from its pressure on the œsophagus and trachea, had completely, for some time previous to the operation, prevented deglutition, and produced a great degree of dyspnœa, accompanied with a severe cough and a harassing sense of impending suffocation. Under these distressing symptoms, and a rapidly increasing tumour, it was evident the poor woman could not survive. But such was the extent of the disease, that it seemed problematical whether any of the artery was sound; but as there was no chance of her life continuing in her present state, the intrepid operator proceeded to lay bare the common carotid artery, immediately before its bifurcation; a small portion only of the vessel was sound; on this, however, Dr. Bush with facility contrived to place a ligature. When he tightened this, a circumstance of a peculiar nature was observed, but which was also noticed in Mr. Wardrop and Mr. Lambert's cases, viz. an instantaneous collapse of the tumour to a certain extent. Immediately after the operation, the poor woman experienced the greatest relief. Since then she has gone on remarkably well; the tumour has greatly subsided, and is free of pulsation; she is now, ten days since the operation, able to swallow, has little or no dyspnœa, and indeed appears to have every prospect of a complete and permanent recovery.—*Lancet.*

Syphilis.—In the year 1497, a proclamation was issued at Edinburgh, commanding all persons afflicted with "a contagious sickness, callit the grand gore (i. e. lues,) that they pass forth and compair upon the Sandis of Leith, at ten hours before noon; and thair sall have and find botis redie in the Haven, ordainit to them be officians of this burgh, reddelie furnisht with victuals, to have them to the Inch (Inch Keith;) there to remain quhill God provyde for their health." They were transported there "*ne quid detrimenti respublica caperet:*" a tolerably strong proof of the then virulence of the disease; in truth, so infectious was it reckoned, that one of the articles of accusation brought by the peers against Wolsey, 1539, was, that "knowing himself to have the foul contagious disease, &c. &c. he came daily to your highness, rowning in your ear, and blowing upon your most noble grace with his perilous and infectious breath." Such was the nature of this plague; and there is nothing in the history of our profession, that more decidedly marks its advancement, than the progress which surgery has made in assuaging the horrors of this scourge.—*Wadd's Mems. &c.*

Discharge of a Worm through the Umbilicus.—The curé of the village Cour-Cheverny, was attacked with violent pain in the umbilical region, for which leeches, emollient applications, &c. were unsuccessfully employed—the pain increased in intensity, and the part became tumefied. On the eighth day, an evident fluctuation was perceptible in the tumour, which presented a black spot in its centre; an opening being made into the part, a living lumbricus, more than a foot in length, was discharged with the fluid. At the end of fifteen days, the patient had regained his former health.—*Archives Générales de Med. &c.*

Diaphragmatic Hernia.—The following organic derangements were observed on the body of a man 60 years of age, who, four years previous to his death, had received a violent blow in the left iliac region; scarcely adequate, however, to explain a lesion of the right side of the abdomen, which should

perhaps be regarded as congenital. The ziphoid apophysis was bent backwards, and on the right of this appendix was found an aperture, through which passed the displaced viscera; toward the left, it presented a fissure nearly an inch broad and about a line in diameter, filled with adipose tissue, and covered with peritoneum; the anterior and middle part of the diaphragm was attached to this point; the union between the colon and the right kidney was higher than ordinary, and the mesocolon, which corresponded with the duodenum and its hepatic curvature, was greatly elongated. On opening the thorax, the hernial sac was seen, of a conical form, and directed obliquely backwards, covering the middle and inferior lobes of the right lung. The orifice of the sac was situated beneath the seventh rib, a short distance from the ziphoid apophysis; towards the abdomen its margins were thin and soft, forming a rhomboidal figure with curvilinear angles, extending an inch and a half transversely, and about an inch from before backwards; on the side of the thorax, the neck of the sac presented some folds and wrinkles, which gradually disappeared towards its base. When opened, it was found to contain a flexure of intestine, with a portion of agglomerated omentum, and appendiculæ epiploicæ; the parietes of the sac were formed by the union of the peritoneum and pleura, which were rather more thickened than these two membranes ordinarily are. The protruded viscera, had acquired no adhesions with each other, or with the sac, and could be returned into the abdomen without difficulty. The lungs, heart and great vessels had undergone no change of structure. The transverse colon was directed obliquely towards the left iliac region. The liver, pressed backwards by the colon, was reduced in size, its left lobe being situated beneath the centre of the diaphragm, and its right larger below than above; the superior extremity of the round ligament formed a part of the hernial sac.—*Biblioteca Italiana.*

Solanic Acid.—This acid, which is found principally in the berries of the solanum nigrum, in combination with the solanine, may be obtained separately by the aid of ammonia, which precipitates the alkali. It crystallizes, is soluble in water, and forms crystallizable compounds with potash and soda, the former in minute needles, and the latter in quadrilateral prisms, of a sweetish taste. It does not act upon the salts of lime, barytes, magnesia, iron, zink, and copper; and possesses a very feeble action upon those of lead, silver and mercury. The acid is also found in other species of the plant, so that it may be regarded as peculiar to this genus.—*Bull. Univ.*

Remarkable Nævus Maternus.—This case occurred at the Plymouth Infirmary, under Mr. Baldy, Surgeon. A male child was delivered, presenting the following appearances:—The mouth was extended to the utmost limits, and incapable of being closed, by the existence of a cluster of tumours of various sizes, which occupied and arose from the upper and middle part of the tongue. "The tumour bore, in appearance, an astonishing resemblance to a bunch of grapes, not in form alone, but also in colour." There was another nævus on the back of the thorax, resembling the wattle of a turkey-cock. The nævi were removed from the tongue six hours after birth, and little or no hæmorrhage ensued.

The most remarkable circumstances are still in reserve—the causes of these extraordinary phenomena.

"Fælix qui potuit rerum cognoscere causas."

When the woman was questioned whether or not she had longed for any particular object during pregnancy, it occurred to her that she had longed for grapes. The turkey-cock's wattle on the back was next accounted for, by the fact of her being frightened by a turkey-cock, when the pregnancy was four months advanced. As it might be thought uncourteous to doubt this explanation, we shall observe in the words of an eminent foreign writer:—"La medecine est trop éclairée aujourd'hui, pour ajouter foi à toutes les rêveries debitées sur ce sujet. On sait que ces taches, verruës, &c. sont causées par des vices d'organisation de la peau, par des alterations dans la distribution des vaisseaux sanguins sur le point altéré, (ce qui fait que beaucoup sont des tumeurs sanguines,) ou par toute autre lesion organique."—*Med. Chir. Rev.*

Existence of Crystals of Oxalate of Lime in Plants.—M. Raspail has read a memoir to the Academy of Sciences, to prove the analogy which exists in arrangement between the crystals of silicia, which are found in sponges, and those of oxalate of lime, occurring in the tissue of phanerogamous plants.

The latter crystals were observed, for the first time, by Rafu and Jurine, who regarded them as organs of which they knew not the use. They were then observed by M. de Candolle, who called them *raphides*, and gave a figure of them, which, however, is inaccurate. These crystals are really very regular tetraedrons. In many plants, as *orchis, pandanus, ornithogalum, jacinthus, phytolaca decandria, mesembryanthemum deltoides, &c.* they are very small, not being more than $\frac{1}{200}$ of a millimetre (.0002 of an inch) in width, and $\frac{1}{10}$ (.002 of an inch) in length. But, in the tubercles of the Florence iris, they are as much as $\frac{1}{50}$ (.0008 of an inch) in width, and $\frac{1}{3}$ (.01312 of an inch) in length, so as to be easily capable of examination.

Bull. Univ. B. xi. 376.

Electro-Puncturation.—Electro-puncturation has been used with great success at the Charité by M. Roux. A young person, eighteen years old, had been the subject of a tu-

mour of the vertebral column for two years, which had brought on complete loss of feeling and motion in the lower extremities. When she was on the point of leaving the hospital, after having remained there for some months without any prospect of relief, M. Roux performed electro-puncturation, by directing in the course of the spinal marrow the galvanic fluid, by means of a very long needle introduced into the spinal marrow across the bodies of the vertebræ, and which was then placed in contact with the voltaic piles. The patient almost immediately experienced a sensation of tickling at the extremity of the toes, and soon recovered the power of moving them in a slight degree; this power extended successively to the fingers and to the legs, so as to allow the patient to walk without crutches.—*Nouv. Bibliotheque.*

Dupuytren's and Langenbeck's mode of treating Prolapsus Ani.—The proximate cause of prolapsus ani, probably depends on so extreme relaxation of the levatores ani, as that the upper portion of the gut gradually sinks down, and protrudes beyond the anus. The similarity between the action of the levator ani, and that of the levator palpebræ superioris, induced Professor Langenbeck to perform the same operation for intus-susceptio recti, as for entropium. After replacing a considerable portion of prolapsed gut, this surgeon pinched up the skin in several parts of the orifice of the anus, and removed the folds thus formed with a scissors. The wounds healed in fourteen days, and the prolapsus never returned.

The cure must have been effected by an increased contraction of the levatores recti. Dupuytren has adopted a similar mode of treating prolapsus ani, in several cases, with great success.—*Lancet.*

Disease of the Spinal Marrow caused by Onanism.—A young man, twenty-two years of age, who had originally a good constitution, but which was broken down in consequence of his having been addicted to onanism nearly from childhood, was troubled for about two months with cough, fever, and puriform expectoration. The body was emaciated to the last degree. He had frequent delirium; and when free from this, he was in the lowest state of despondency; the alvine evacuations were liquid, and passed off involuntarily; he had copious and fetid perspirations during the night; during the remissions of the fever he had cephalalgia, and a sense of formication in the back and thighs; his appetite was voracious, and his thirst intense. He was placed under the tonic and analeptic plan of treatment; but he found no permanent relief from it, and he ultimately died in convulsions.

On examining the body after death, the vessels of the brain were found full of blood; the lungs tuberculous throughout their extent; the abdominal viscera appeared healthy, but the spinal marrow, from top to bottom, was in a state of particular atrophy. The medullary substance in the back and loins had not the appearance of having lost any of its mass; but the cellular tissue, which unites the nervous fasciculi, was very much wasted, all the way down to the *cauda equina.* At this latter point the medullary substance itself had partly disappeared; and the neurilematic sheaths were almost empty. The testicles, also, were wasted.—*Bull. des Sciences Médicales.*

Obliteration of the Ductus Choledochus.—On examining a male subject (apparently about fifty years of age) which exhibited a remarkably deep bilious colour throughout almost all the parts of the body, both solid and fluid, *M. Bérard* found the centre of the duct almost strangulated by a strong cord, derived from the cellular tissue surrounding it. There was no induration or schirrosity in any of the neighbouring parts. The portion of the canal between the constriction and the duodenum was rather diminished in diameter, and that above it was considerably distended with bile, and larger than the small intestines. The hepatic and cystic ducts partook of this enlargement; and the gall-bladder was itself turgid, extending for about half its length beyond the anterior edge of the liver, and forming a tumour in the abdomen, which was of a circumscribed, moveable, and oval appearance. The retained bile, however, had given rise to some remarkable derangements in the liver. This viscus was of a deep green colour (without the slightest manifestation, however, of putrefaction,) arising solely from the bile with which it was gorged. The excretory vessels also, enormously dilated, had caused an atrophy of the tissue of the organ itself; so that the liver might be compared to a bag containing a fluid, which was in fact the case, as it was pervaded in all directions by canals filled with bile.

M. Bérard observes, 1st, that the bile, retained in the manner here described, acted on the excretories of the liver much in the same manner as retained urine acts upon the ureters, the pelvis, the tubes, and body of the kidney; and, 2dly, that the cause of these derangements, and probably of the individual's death, was in fact slight, and might have been removed by an incision through the cellular fibre, which hindered the flow of the bile into the duodenum. Reference is made to a case of this nature which occurred to Petit, who imagined he was operating on an abscess of the liver, when the tumour subsided before he arrived at the supposed seat of the abscess, and the patient voided bile *per anum* in a short time afterwards.—*Nouv. Biblioth.*

Case of True Polypus of the Heart.—This occurred in a young man aged 19, whose previous disease has not been reported. On opening the body after death, the pericardium was found adhering to the heart throughout, and

covered with a fat, reddish substance. A genuine polypus, formed of membranous and muscular fibres, together with fat, adhered to the edge of the auriculo-ventricular orifice, and to the great lobe of the tricuspid which covers the mouth of the pulmonary artery. The body of the polypus was about two inches long, and about the same breadth; a narrow prolongation went off, to be implanted in a very intimate manner into the substance of the heart, by means of tendinous fibres; one extremity of the polypus extended into the right auricle, and the other into the pulmonary artery, in which its point floated at liberty. The body contained two excavations, one of which was filled with coagulated blood, and the other empty. The right ventricle was small, narrow, and of a rhomboidal figure—the auriculo-ventricular and aortic orifices, together with the corresponding valves of the left side, were deeply incrusted with calcareous matter.—*Bull. des Sciences Médicales.*

M. Baron related the case of a child which died the third day after birth. The cranium was depressed anteriorly, the frontal bone was wanting, and the cranium was only formed by the occipital and the two parietal bones, which were very small, especially in front. It had neither eyes nor nose, unless we consider as a rudiment of this last organ, a small flattened prolongation of skin, situated in the middle of the fissure, which was in the upper lip. M. Baron proposes to call this monster *microps*, the principal characteristic of which was the absence of the forehead, eyes, and nose.

New Publications.

Leçons de Médecine Legale; par M. Orfila, professeur à la Faculté de Médecine de Paris, &c. &c. Trois vol. in 8vo. avec un atlas.

Nouveaux Eléméns d'Hygiène, rédigés suivant les principes de la nouvelle doctrine médicale. Par C. H. Londe, D.M.P. membre de l'Academie Royale de Médecine, de la Societé de Médicale d'emulation de Paris, de la Societé de Londres, &c. Deux vol. in 8vo.

A General View of the present State of Lunatics, and Lunatic Asylums, in Great Britain and Ireland, and in some other Kingdoms. By Sir Andrew Halliday, M.D. and N.H. Fellow of the Royal Society and College of Physicians of Edinburgh, Licentiate of the Royal College of Physicians of London, &c. &c.—8vo. London, 1828.

Traité Générale d'Anatomie comparée; par J. Y. Meckel, *trad. de l'allem., et augmenté de notes*, par M. M. Riester et Alph. Sanson; précédé d'une lettre de l'auteur. Tome 1, prix, 7 fr.

Traité des Maladies Syphilitiques contenant les divases méthodes des traitement qui lui sont applicables, et les modifications qu'ondoit leur faire subir suivant l'age, le sexe, le temperament du sujet, les climats, les saisons et les maladies concomitantes: ouvrage où sons specialment detaillées les règles de traitement adoptées à l'hospice des vénérriens de Paris; par L. V. Lagneau, docteur en Médecine, chevalier de l'ordre de la Légion-d'Honneur, &c.—sixième édition, corrigée et considerablement augmentée.—Deux vols. 8vo.

Mélanges de Médecine et de Chirurgie, ou Mémoire sur les pansemons, luxations, opérations chirurgicales, malàdies syphilitiques, paralysis, &c. Tome deuxième 8vo.

Recherches Anatomiques, Physiologiques, Pathologiques sur le Systeme Veineux, et specialment sur les canaux veineux des os; pas M. Breschet, docteur en Médecine, agregé en exercice, &c. Première livraison in-folio, avec six planches coloriées.

De Quelques Erreurs relatives à la Mort dite naturelle, et des vrais moyens de prolonger la vie; par A. E. Prélacy, Montpellier, Histographie Organique, &c.

Works in Press.

Tho. Sydenhami Opera Universa Medica, Edit. reliquis emendatiorem et vitâ auctoris auctam curavit C. Gottl. Kuehn, Gr. in-12 de xxiv. et 772 pag. Leipzig, 1827.

This edition of Sydenham will form the first volume of a *bibliothèque médico-pratique*, which professor Kuehn, already celebrated by his editions of the Greek medical writers, proposes to publish under the title of *Scriptorum classicorum de praxi medicâ nonnullorum opera collecta.* Huxham, Baglivi, Morgagni, and other celebrated physicians from the sixteenth century downwards, will compose this practical library, which has many claims to the patronage of the profession.

Dictionaire Historique de la Medecine Ancienne et Moderne, ou Bibliothèque choisie des médecins, et de leurs ouvrages, avec un resumé de l'histoire de la médecine, de son origine, de ses progrès, de ses révolutions, de son état chez les differents peuples; suivi de la bibliographie médicale du 19e. siècle et d'un repertoire bibliographique général par ordre des matieres. Par M. M. Dezeimeris, Olivier et Raige Delorme. Paris, 1827.

In the press, and nearly ready for publication, in one vol. 8vo. a Practical and Pathological Inquiry into the Sources and Effects of Derangement of the Digestive Organs; embracing some affections of the Mind, as well as Diseases of the Body. By Wm. Cooke, Member of the Royal College of Surgeons, Secretary to the Hunterian Society, Editor of Morgagni, &c. &c.

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ON THE COUP DE SOLEIL. By James Mitchell, Esq. Surgeon, Royal Navy.

This disease has been termed by the French "*Coup de Soleil,*" or stroke of the sun, thereby expressing the chief cause of its formation. Cullen seems to consider it as a symptomatic species of phrenitis, and terms it "Phrenitis Calentura" in his System of Nosology, although I do not observe that he takes notice of it in his work on the Practice of Physic, except that he enumerates among the causes of phrenitis, exposure of the naked head to the sun's rays. Dr. Thomas, in his Practice of Physic, speaks of this disease as a species of apoplexy. Certainly, in some cases, the stroke of the sun produces apoplexy, or something very much resembling it; and when the system does recover from the stroke, it is not to be distinguished from apoplexy, either when life remains, or afterwards by dissection, the appearances being the same. But, in general, it seems after the stroke to assume the character of phrenitis; and, in my opinion, Dr. Cullen more properly classes the disease as a species of phrenitis in class *Pyrexiæ*, order *Phlegmasiæ*. I therefore think the name of *Ictus Solis*, or *Coup de Soleil* of the French, is the most expressive term for it, as it comprises its apoplectic as well as its phrenitic character.

The effects of the stroke of the sun were not unknown to the ancients in warm climates; hence we find in the Sacred Writings allusions to the effects of the sun producing severe disease, and sudden death.

I may adduce the following passages respecting the knowledge of the sacred writers respecting the influence of the sun on the human frame. Psalms, cxxi. v. 6, "The sun shall not smite thee by day, nor the moon* by night." Isaiah, chap. xlix. v. 16, "They shall not hunger nor thirst, neither shall the heat nor sun smite them, for he that hath mercy on them shall lead them, even by the springs of water shall he guide them." Jonah, chap. iv. v. 8, "And it came to pass when the sun did arise, that God prepared a vehement east-wind; and the *sun beat upon the head* of Jonah, that he fainted, and wished in himself to die, and said it is better for me to die than to live."

Various other passages might be adduced to prove the effects of the sun on the human frame, and the blessings of shade in foreign countries. But these may suffice.

Coup de Soleil or sun stroke is known to occur in all hot climates, particularly in their hot seasons. When surgeon of the naval establishment of Canada, Lake Champlain, in the summer of 1815, I had a great number of cases, with one exception all marines, and all of which occurred in the course of two very hot sunny days. They were attacked with it at their posts with their muskets in their hands; and such was the fury with which they were seiz-

* David, in the Psalm above alluded to, mentions the stroke of the moon as well as of the sun. Now, this is an allusion to a most singular effect of the moon, although it cannot be from the heat it emits. However, as David says, it does produce a stroke of some kind. I have heard of its producing paralysis of the faces of sailors when exposed sleeping on deck in the full moon, their mouths being drawn awry, and never regaining their usual appearance. Once, when at Java, a sailor was under my care for intermittent fever, apparently produced from sleeping on deck in the moon, attended with very anomalous symptoms, such as sudden swelling of the face, delirium, livid spots on the face and countenance, appearing and disappearing at irregular intervals, and a paralytic affection of the mouth and tongue. The people and himself attributed it all (on my inquiries) to his sleeping in the moon; but I judged it rather to arise from his exposure to the concentrated marsh miasma which abounds in the night-time, and is so fatal to Europeans in that climate, though I would not go the length with most of my brother surgeons in his Majesty's service, who have treated the notion of the moon as ridiculous, and merely to have originated in the superstitions of the sailors. The moon has certainly some influence as well as the sun in producing or modifying diseases. It is very clear, that fish or meat exposed in warm climates to the rays of the moon, not only turns putrid, but are in some cases rendered poisonous.

ed that they actually made a charge. I have observed three kinds of this disease:—1st, Sudden and complete insensibility, attended with total loss of power, stupor, and stertorous breathing.—This is the apoplectic species. 2d, The immediate appearance of symptoms of violent phrenitis with delirium. The 3d, consisting of symptoms of chronic phrenitis, coming on gradually, and continuing a long time, attended by delirium of a particular nature; sometimes violent when the patient was treated kindly, but in general being attended with a perversion of ideas.

The 1st species, which I have termed the apoplectic, is a very fatal disease. It generally occurs in persons of full habit, living freely, and suffering much from heat; in consequence of being ordered on some arduous service (when the stomach is distended with food, and the blood-vessels excited by ardent spirits,) under a burning sun; or after exposing the body to the sun in the act of sleeping after a drunken fit, as I have seen sailors do.

In these cases the pupils are remarkably dilated, the patient insensible to external stimuli; the features of the countenance distorted and distended, seemingly as if there was engorgement of all the vessels; the pulse slow and labouring, sometimes intermitting; the veins of the neck and head of the subcutaneous order seem frightfully engorged; and, indeed, such is the determination to the head, that the skin of these parts seems as if it had undergone a most successful injection, or was in a high state of inflammation. Sometimes paralysis of the sphincters takes place; all sensibility is gone; and the patient lies in whatever posture he is placed. The extremities are generally cold; and if something is not instantaneously done death soon closes the scene.

A sailor, when on shore, had drank a great deal of ardent spirits. After this, on leaving the canteen, he went to a retired place in the open air, lay down to sleep, exposed to the rays of a vertical sun, and he was found out by accident shortly afterwards in an insensible state, not from the influence of spirits, but from the effects of the sun on him in that state of debility from sleep and spirits. The messmates thought him drunk, and had him put to bed as such. On my arrival, about twelve hours afterwards, he was reported to me as in that state; but having some suspicion about the case, I examined him, and found him to be labouring under the above-mentioned disease. He was taken to the hospital, where, by the exertion of very powerful means, I gradually restored him, though it was a month before he was fit for duty.

I confess it is very difficult to distinguish in some cases of this nature, whether apoplexy has taken place, or whether the patient is merely labouring under the operation of intoxicating liquors. It is requisite to understand the diagnosis accurately, to determine the proper mode of treatment, as what is absolutely necessary in the one case might prove fatal in the other. Since writing the above, various cases of this species of the stroke of the sun have occurred in England this summer, in consequence of the great heat, generally attacking labouring people in the fields engaged in agriculture, and almost in every case proving quickly fatal. In one newspaper I observed no fewer than twelve cases of sudden death from this disease.

In this state the vessels of the brain become turgid; and, by being once distended, they cease to circulate the blood, and thereby produce alarming compression of the brain, generally becoming speedily fatal by the rupture of a considerable blood-vessel, or more slowly, by a small blood-vessel giving way, or by effusion of serum; and before the system rallies sufficiently to absorb the effused fluid, a fatal termination ensues.

In this species of the disease every thing depends on the most speedy and energetic treatment; for if something is not done instantly when the patient is seized, it is very unlikely that any future treatment will be of use. The treatment I have found to be most efficacious is the following: 1st, A very large general bleeding, so as to produce complete relaxation of the system, either from a vein of the arm, from the temporal artery, or what is much more efficacious, viz. from the external jugular vein, which seemed to me to act more decidedly in withdrawing the blood from the vessels of the head, and thereby relieving them from that dreadful engorgement which proves fatal either by a rupture of some of them, or from effusion being produced. 2d, The head to be shaved, and cold fluids to be poured on its centre from a height. 3d, The lower extremities to be placed in very hot water. 4th, Stimulating purgative enemas to be thrown up the *rectum*. 5th, The whole body to be rubbed with stimulating embrocations. If these means are so far successful in preventing a fatal termination, the necessary after treatment is the same as will be required for the other species to be taken notice of afterwards. Could a medical man be found immediately, and these means used, I think this species of the disease would not prove so rapidly and generally fatal as it does. On one occasion, when having landed on an island in Jarvis's Straits, which was hardly any thing but a naked rock, and that nearly white from the dung of sea-birds, I suffered much from the reflection of a burning sun, and indeed thought I was on the point of having a stroke of the sun, as I nearly lost my vision, and my head felt distended as if ready to burst. I rushed towards a cave in the rock facing the sea, and finding salt water in it, I took a handkerchief, and with it kept my head in a constant state of evaporation. In fifteen minutes I felt myself completely relieved from the most unpleasant sensations. When my companions joined me, they were all suffering much from the intense heat, though by no means in the proportion that I did, as their habits were not equally plethoric. They followed the plan that I had adopted, and soon experienced relief.

The second species, which I term Phrenitic Acute, bears a very strong resemblance to phrenitis in its symptoms, except that it occurs in an instant without previous warning. I think that it cannot be better described both in its history, symptoms, causes, and treatment, than as it appeared to me on service in Canada, during a very hot summer, about ten years ago.

I was stationed as surgeon to a naval establishment on an island in Canada, near one of its celebrated lakes. The island was quite free from trees or shelter. The sun beat freely on every part of it, and was very oppressive in summer; but in the particular season alluded to, the heat of the sun was so excessive, that in Montreal horses dropt down dead in the streets, and the bee-hives discharged their precious contents. Our marines on sentry were ordered to keep their boxes for shelter, having little windows of observation cut in them. But such is the carelessness of these men, with regard to the preservation of their persons, that several of them scorned the advice, and walked about, and thereby to the number of seventeen or thereabouts, suffered this species of the stroke of the sun. They in an instant became quite deranged, charged with their muskets, pushing at every thing they met with in their route, till they were seized by force, and conveyed to the hospital. On inspecting them, I found great muscular strength exhibited, continual struggling to get free from the necessary restraint put on them; the muscles and all the blood-vessels much distended; eyes red, protuberant, and staring, pupil contracted; face swelled, red, and all the features distorted; the neck turgid and red; jugular veins much enlarged, the carotids pulsating with great violence, so as to be seen elevating the surrounding integuments. All these cases occurred in the space of a day or two.

As I dreaded from the violence of the symptoms effusion of blood or serum, I immediately determined on a large general bleeding from the arm, *usque ad deliquium animi*. From the first case, which was a very violent one, as the man was of a very plethoric habit, it was requisite to take away about five pounds of blood by measure before I could induce fainting, and consequent cessation of the violent vascular and muscular action. The relaxation of the system was then so great, the sphincters becoming powerless, and syncope was so complete, that I thought I had carried my plan too far. The system soon rallied, however; and, in four or five hours more, the symptoms returned, though not with their former violence, and I was under the necessity of abstracting two pounds more. In none of the cases did I abstract less than three pounds the first time, and less than five pounds at the two general bleedings, not being under the necessity of repeating them more than twice, as they had the most happy effect. The only other remedies necessary were shaving the head and keeping the surface in a continual state of evaporation by cloths wet with vinegar and water; exhibiting purgatives and enemas, with cooling acidulous drinks. They all recovered, though the cure was tedious, owing to the great debility ensuing after such increased action, and consequent extreme depletion.

After this several persons in the vicinity were attacked with the same disease. At first they were treated by small and frequent topical bleedings; but two died under the treatment; and on dissection effusion of blood was found in one case,* and of serum in another, which was more protracted; therefore, larger bleedings were had recourse to, and this proved successful. The bleedings were not to the extent of mine, as they were not able to bear so much loss of blood as the sailor, from the latter being more plethoric, owing to his confined life, and having a more full diet, and more spirituous liquors. I do not mean to say that I would take so much blood perhaps in this country were similar cases to occur, (and I am persuaded they often take place in hot summers;) but my great object would be if possible on all occasions to produce a complete state of syncope. I met with two cases of this disease at Rio de Janeiro about four years ago, and I carried the depleting system to as great an extent, and with the happiest success, though they were both men of spare, and by no means of plethoric habits.

The third species I call Phrenitic Chronic, because it comes on rather gradually and insidiously, and may continue a long time without destroying the powers of life. It seems from the cases I have seen, to have during its continuance a tendency to disorder the arrangement and association of ideas rather than to destroy vitality; and though I have not been able in my limited knowledge of this disease to find out that it ever terminated in permanent mania, yet I have no doubt it contributes its proportion to the formation of that disease, particularly when persons are obliged to remain in a hot climate, where it is chiefly engendered. In all the cases I have known the patients were ordered to England to enjoy the bracing air of its climate; and their ideas never became correct till they got out of the hot into cooler latitudes, when they awoke as it were out of a dream, and wondered how they had remained in such a delusion and train of reasoning and ideas so foreign to them.

As far as my experience goes, I have observed this disease only in hot climates. The patients were persons in a superior sphere of life, who had been well educated, men of very acute feelings, particularly in all points of their duty as officers; for I have known none of the lower orders afflicted with the malady.†

* Chisholm in his Manual mentions that in fatal cases of sun-stroke in the West Indies, it was not uncommon to find blood effused in the ventricles of the brain.—Ed.

† Officers, both military and medical, are most frequently affected with this species, when, in the discharge of their duty, they are exposed to the sun's rays, where the heat is not

The disease began by the person suffering a dull headach for some days, and considerable feeling of distention of the head, as if the brain was confined by the skull, and unable to expand itself. The countenance was turgid, sometimes flushed and pale alternately; many vessels were seen on the conjunctiva carrying red blood; pulse quick and noisy; tongue much loaded in the centre, with a red edge; rather dry in that part. The patient's mind is at the same time much agitated, particularly about his official business; every trifling joke is converted into a serious insult; and he is very irascible, particularly towards those who are his best friends. He seems to be continually engaged in a bustle; his mind is so incessantly occupied that he cannot sleep, nor will he take time to eat his food, if placed before him. He swallows it as it were unconsciously, without chewing it, talking all the time, loquacity being a prominent feature of the complaint, the language good and the reasoning excellent. He engrosses the whole of the conversation, and directs it to himself, his situation, and affairs; but he speaks loud and dictatorially, without his usual prudence, and seeming in no wise to care whether he offends or not, considering his situation desperate. Every contradiction throws him into a perfect paroxysm of passion and violence. At this time, on particular observation, there will be found a tumefaction of the right side in the hypochondriac region, though without pain on pressure. This seems to arise from engorgement of the liver from bile, as little or none passes with the stools; and indeed, as may be supposed, great costiveness is prevalent; the stools are hard, and of a light clay-colour; and the urine is very scanty, and much loaded. There is no jaundiced appearance prevalent. This alarming state of the frame is not observed by the patient himself. He thinks his health is unimpaired; that he is merely oppressed with multifarious duties; and that as soon as they are finished every thing will go on as usual. In this state he may proceed perhaps for weeks, sleeping and eating little or almost none, merely drinking a great quantity of fluid on account of the great and incessant thirst existing from the intense febrile action that prevails. At this time the skin is quite arid, and perspiration not visible, though the heat of the weather is great. The strength of the body is not diminished, but, on the contrary, much increased, and the patient goes about, and is able to make very great exertions.

Previous to these symptoms the patient had been harassed by various arduous duties and heavy responsibilities, and required to make great exertions, when exposed to the rays of a tropical sun, sometimes in boats, at other times on horseback, and often marching to great distances, with feelings much goaded, perhaps on account of his not being able to accomplish the service upon which he was sent, in spite of every exertion of his own, to the risk even of losing health or life, while others who should have assisted him were unable or unwilling to afford the expected co-operation. Under these circumstances, with the mind anxious and the body exhausted, it cannot be wondered at that a tropical sun should have such effects on those who had previously stood its powerful rays with impunity.

If at this stage of the complaint the patient is not attended by a skilful physician, the event must be lamentable indeed; things will go on from bad to worse. The practitioner should proceed in the case with the greatest gentleness and caution. It will require all the address of the most consummate politician to get the patient to receive visits and to take medicines, as it is difficult to convince him that there is a necessity for either the one or the other. He requires to be courted and won by the most soft and soothing language of persuasion and friendship. His physician must reason with him calmly on the heat of the weather, impress the consequent necessity of keeping within doors, cool and quiet, and the propriety of removing the bile by purgatives, a caution which is known to be necessary by all persons, not medical men only, who frequent hot climates. His diet should be very mild, cooling, and laxative. All stimuli, either in the way of food, clothing, or mental excitement, should be most studiously avoided. By this plan in the course of a short time it may be completely removed.

But, on the contrary, should a different plan be pursued, such as the use of restraint or violence, and plainly pointing out to the patient that you consider him insane, the disease is greatly aggravated. The eyes become red and ferrety; the countenance more flushed; and there are evident symptoms of determination to the head. He then grows jealous of every one, and suspects and dislikes his best friends, as he is well aware, that, though their intentions are good, they are taking means to secure him, and he is therefore continually on his guard respecting all their advices and proposals towards him. Should they succeed in securing him he becomes perfectly frantic; and the most violent measures in the way of depletion are then had recourse to, in order to remove the disease. Improvement, however, does not take place until all restraint is removed, and perfect confidence is restored between the patient and physician.

I do not mean to say that restraint in this species always brings on the maniacal attack, or that it would have not occurred spontaneously. But in one case that came under my own observation, it was decidedly brought on by ill-timed and ill-judged measures. When this state is induced, the delirium is chiefly monomaniacal. The person is perfectly aware of the presence of his friends and acquaintances when they visit him; able to answer readily, and with very great shrewdness, any question which is put. The answer is rational, un-

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so excessive as to produce the former species. We have seen examples from the East Indies and Sicily.—Ed.

less when they touch on subjects connected with his particular hallucination. He reasons very logically, and with great acumen on all subjects introduced, though there be great volubility of tongue, anxiety of the countenance, and extraordinary opinions are advanced, with a large proportion of the ludicrous in all his remarks. During the whole of this state the bowels are so much constipated, that ordinary purgatives have little or no effect. The secreting function of the liver seems to be decidedly deranged, indicated by evident swelling in the hypochondriac region, and also by the stools being perfectly white and destitute of bile. The appetite is entirely gone; the thirst is trifling; the skin quite dry and dingy, of an anserine appearance; and indeed the body throughout puts on rather a jaundiced hue.

Even under the very best treatment the delirious train of ideas does not subside for a very long time; and the patient betrays such a degree of eccentricity, both in words and actions, that it appears doubtful whether he will ever be restored to his former state of sound feelings. In none of the instances I saw were ever the delirious feelings removed, till the individuals had left the warm climate and got into a colder one; when they looked back with amazement and alarm, on their former ideas on subjects in which they were now perfectly lucid. The disease, indeed, and the remedies generally used for its removal, completely destroy the tone of the nervous system.

Should the disease from neglect or bad treatment terminate in maniacal delirium, the usual plan that is had recourse to is large bleedings, both general and local; severe purging; blistering; cold baths, and almost total abstinence from food. At the same time, violent coercion is employed. The result of all this is in general a complete loss of tone in the nervous system, death, or confirmed insanity. As such are the dismal effects of this treatment, it is necessary some other plan should be adopted. I consider this disease to be chronic phrenitis, produced by a relaxation, and consequent fulness of the vessels of the membranes of the brain; but particularly of the delicate arachnoid coat, arising from loss of equilibrium between the circulating and nervous systems, evidently the product of debility. Whatever tends to recover the tone of these vessels and the balance lost between the circulating and nervous power must remove the disease, unless there be some organic change existing in these parts. These inferences are justified by the appearances on dissection of persons who died while labouring under this disease.

In this stage of the disease there is neither headach nor intolerance of light to indicate acute inflammation of the cerebral membranes. On the contrary, there seems to be a temporary paralytic state of the nerves of these parts, and hence an inability to propel the blood, producing stagnation, and consequent distention of the vessels. I cannot agree with Pinel and Esquirol, who suppose in this state of disease that the digestive organs are the first in fault. In the cases which I have observed, and I have done it very narrowly, the brain and nervous system were first affected, and through them the circulating and digestive organs became deranged. The system of indiscriminate bleeding in all head cases, and to a great extent, has done an immensity of harm. Serous effusion has been induced, and the event which the medical man dreaded was hastened by the step he took. It certainly requires attentive examination into the history of the patient, into his previous habits and former complaints, to ascertain when bleeding is necessary in these cases. The young and inexperienced practitioner, when he gets a case of inflammation of the brain, or other viscus under his care, thinks he can never do wrong if he bleeds till pain ceases, and all symptoms of inflammation are gone. But how many has this practice sent to their graves; and hence the great necessity of careful observation, to trace the line of demarcation between the acute and chronic stage of the inflammation. The moment that the chronic state is observed, a very different plan of proceeding is necessary; and though the necessary quantity of blood should be drawn, the patient should lose no more; for it is astonishing what injury is done by any undue quantity of blood taken away, after the acute state is removed; viz. in phrenitis, producing effusion between the membranes, and in the ventricles of the brain; in carditis, causing hydrops pericardii; in pneumonia, inducing hydrothorax or phthisis; in gastritis, leaving great sinking of the vital powers; in peritonitis, causing ascites; in enteritis tympanites; and in rheumatic fever, a complete break down of the constitution. All this appears to me to occur from the balance being destroyed between the circulating and nervous systems, and by the waste of that electric nervous fluid, which gives tone to the animal fibre.

The treatment I would recommend for this state of the disease, when the maniacal state has come on, would be gentle purging with aloes and canella, assisted by enemas, draughts composed of the acetite of morphia, camphor, and antimony, in large doses, aided by the warm salt-water shower-bath, (taking care to rub the body well with coarse cloths, and then place it in blankets,) so as to allay nervous irritation, induce sleep, and promote determination to the surface. General bleeding should be most sedulously avoided; and if depletion be required at all, it should be done by the aid of leeches to the temples. The head should be shaved, and kept cool by cloths wetted with vinegar and water. A blister may be applied between the shoulders, or, what is much better, a seton may be placed in the nape of the neck. If it appear that the disease is complicated with any hepatic affection, indicated by a puffy swelling in that region, with pain on pressure, and the other usual symptoms, then a cluster of leeches should be applied to the pained part, followed up by a large poultice, giving internally some brisk purgatives of calomel and jalap. Nourishing food, with

malt liquor, should be given, and great attention paid to cleanliness.

The nurse who attends must be a person of firmness, to prevent the patient doing any injury to himself or others. At the same time he must have a good temper to bear the whims of the patient, and to treat him with the greatest kindness and humanity, soothing language acting like an opiate or charm; whereas contradiction, harshness, and violence, only aggravate the disease by exciting the maniacal paroxysm.

As this maniacal state bears the character more of a moral than a medical disease, I think great and good effects may be gained by permitting the visits of sensible religious friends or clergymen, with soothing language and persuasive arguments, to converse with and reason upon the absurd religious notions the patient has adopted, in consequence of the diseased state of his imagination and perversion of his judgment, such as considering himself the Saviour of the World, or some great prophet, or the harbinger of the millenium. This latter idea, singular to say, prevails most in mania, the product of a "*coup de soleil.*" They should not talk to the patient as if his opinions were absurd; but state how others were affected similarly, and the patient will perhaps apply this reasoning to himself. The clergymen or friends who are allowed to visit should be persons of considerable abilities and ready-witted; for I have observed that when the disease has not ended in fatuity or effusion, the patient has great brilliancy of ideas, and his reasoning powers are very acute. Were he therefore to get the mastery in argument, it would only be confirming him in his absurd chimeras; but, on the contrary, were he good-humouredly foiled in his notions, he would discard them, and thereby recover his reason. On the patient's recovery he should live in close retirement, for many months, in the country, avoiding all business and society that would produce any mental exertion, so that the brain and nervous system may regain their tone, which is best done by the absence of all mental stimuli. Great care should be taken to keep the bowels open by gentle laxatives and moderate exercise.

If this plan cannot be adopted at home, either from the obstinacy of the patient, or inability to procure a proper attendant, in that case, he should be placed in a public or private asylum for lunatics. These places were formerly dreaded justly, both by patients and their friends, but are now in many instances carried on in a highly creditable manner. From the enlightened state of the country, and from the investigations of Parliament, a new light has broke in upon these establishments. It is now known that it is not necessary to treat the maniac as a criminal, or that he should be flagellated, or starved by cold and hunger. The time has now arrived when the patient may be deprived of his liberty, yet enjoy the freedom of his limbs, and thereby benefit his health. It is also found, that though he may be deprived of his reason, yet the feelings of hunger, thirst, and cold, and heat, are still in existence; and must be attended to by an adequate supply of wholesome nutritious food, fluids, clothing, fire, and exercise.

I could adduce various cases in proof of the justice of my remarks on this disease, (*Phrenitis Chronica,*) produced by the great heat of the sun; but one may suffice.

This occurred to an individual in the army of the Duke of Wellington, after the action of Talavera in Spain, while on the masterly retreat of his army into Portugal, in order to occupy the lines of Torres Vedras. The subject of it had to perform some arduous duties, during which he was much fatigued and long exposed to an ardent sun. After this he became restless night and day, agitated by trifles. On any thing pleasant occurring, he was overpowered by joyous feelings, that rendered him very loquacious. His whole manner gave him the appearance of having drank too much. He felt no inclination for eating, and when he did eat, he swallowed the morsel without masticating it. He was always thirsty. Excessively melancholy on the most trivial occasions, when in his excited state, he became very irritable on the most trifling occurrence. Sleep he could only procure on alternate nights, and even then very little of it. This state continued for some time, during which he went about doing duty. All the symptoms quickly became aggravated. His head felt as if it were distended, or as if the brain was becoming too large for the skull; and his eyes also felt full, and appeared very dazzling. His pulse was quick and irritable, and his tongue foul. Shortly after, he felt pain in the region of the spleen, then in the right lobe of the liver. The stomach then became affected by pain, vomiting, and severe heart-burn. After eating or speaking much, or becoming excited by any means, mouthfuls of food hardly changed were ejected from the stomach; and indeed complete and alarming dyspepsia came on. The bowels were sometimes costive, but more frequently lax. The fæces were of a colour that indicated a great deficiency in the biliary secretion.

In this state he applied to the surgeon of the regiment, and hoped that he would relieve the state of his head by ample bleeding; but this the surgeon absolutely refused. After inquiring fully into the state of the case, and finding, from the length of time that he had been afflicted, that it was of a chronic nature, he ordered his head to be shaved, and to be kept covered by cloths continually soaked with vinegar and water. He opened the bowels well by calomel and jalap, assisted by draughts of infusion of senna with Epsom salts. The patient became more and more confused, till reason entirely left its seat, and a maniacal paroxysm was induced. A complete cap-blister was put on all over the head. Soon after this he recovered his reason; nourishing diet was given him; and by the aid of a few laxatives he was able to return to duty in a fortnight.

About four months afterwards, in 1811, si-

milar causes produced a very slight attack. He felt it coming on, and applied to the surgeon; but confinement for a few days, and gentle opening medicine, removed it. He had no attack until the year 1814, when in Portugal, on the point of embarking for England. His mind was greatly distressed on hearing of the death of a near relation, and a slight relapse was the consequence; but confinement to his room for a few days, and mild treatment, removed it. After this he travelled much, crossed the Alps, and passed through Italy. He was at the action of Waterloo; and was in France afterwards with his regiment. He felt no return of his former malady until the year 1819, when it was quickly removed by gentle laxatives, and he was not under the necessity of keeping within doors. He remained in good health in Scotland, until July 1826; a summer that will be long remembered in Great Britain for the intensity of its heat, great drought, and premature harvest, as also for the number of cases of bilious fevers, cholera, diarrhœa, and *coup de soleil*, chiefly of the species I have termed apoplectic, terminating fatally. At this period he exposed himself without his hat for many hours working very laboriously, until the perspiration was pouring from him, which he was never accustomed to do. On going to tea in the evening he had no appetite; and he felt his head confused. At last intense headach came on, attended with stupor, and followed by complete delirium. An able and highly esteemed surgeon who was called, bled him largely, in all at different times to the amount of 100 ounces, from the arm; shaved the head; applied a large cap-blister to it; opened the bowels freely; and enforced a most rigid antiphlogistic regimen.

After this the disease assumed the chronic type. He was sane on most points, but evidently insane on others. He had lost all recollection of dates and events, and forgot every thing that was told him only the minute before. The surgeon never inquired particularly into his case, or whether he had been similarly affected formerly; he therefore continued reducing his patient by giving him daily purgatives for nearly two months; and considering the liver to be affected, from his patient having been in a warm climate, he earnestly urged an alterative course of mercury, to which his patient objected, and rebelled against taking any more medicines. At this time his weakness was so great, that he passed his urine and fæces involuntarily. He complained of faintness from hunger, but was allowed little or no solid food. A consultation of medical men met on his case, and advised him to be sent to a private asylum for the insane. On his admission he was immediately put on a mixed diet of animal and vegetable food, with malt liquor. I saw him a few days afterwards, and was delighted to find him walking about, but still insane. A seton was put in the neck, and in eight or ten days he became quite sensible, and increased in strength daily; and the account that I had from him afterwards was, that he found great difficulty in restraining his appetite, which was ravenous. The history of this case demonstrates the advantage of treating maniacal, or head cases in the mildest manner, with little or no restraint, and by nourishing diet. It presents some difference from my general statement respecting the loss of recollection; but, as it elucidates best in other respects what I wished to prove, I think it worthy of being quoted.

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ON THE SPONTANEOUS EVOLUTION OF THE FŒTUS.

By George Jewel, Esq.

When we reflect upon the revolving changes which the several branches of medical science have undergone through succeeding ages, none appear more conspicuous than those which appertain to midwifery. It is, indeed, a fact too palpable to be refuted, that hitherto its principles have neither been so stable or determinate as those which belong to medicine generally: a circumstance, it is fair to presume, attributable to its defective cultivation as a branch of the healing art. Midwifery, unfortunately, has been left, for a long series of years, entirely unprotected by the medical corporate bodies of this kingdom, and, as a natural result, it has never been fully appreciated by students and junior practitioners as an important branch of science. Indeed, it is scarcely exceeding the bounds of truth to say, that very many practitioners of the present day have become acquainted with the mechanical delivery of women in laborious parturition by experience only, and that experience sometimes too dearly bought, while the principles of the science have been left totally uncultivated, frequently unnoticed. If the opinion be correct that the principles of midwifery have been to a certain extent neglected, and it scarcely admits of doubt, it cannot excite surprise that many of the phenomena of parturition should pass disregarded.

The object of this communication is to draw the attention of practitioners to that peculiar condition of the fœtus, which obtains in one species of what are termed preternatural labours, and to induce a further development of facts; for it is upon this alone the solid pyramid of science can be raised.

The records of medicine inform us that, among women in all ages, the function of parturition has been not unfrequently interrupted by the cross position of the infant. To convert the preternatural into a natural presentation, or, in other words, to bring the head of the child, when an arm presented, in apposition to the os uteri, must have been (to say the least of it) a very precarious mode of delivery; in fact, one which seldom could be crowned with success; and, if foiled in the attempt, cutting instruments were had recourse to, under all circumstances, and at any period of the labour, with which they mutilated the

child, that it might be extracted piecemeal through the pelvis. In justice, however, it should be stated, that formerly the various conditions and capabilities of the uterine fibre was not well understood; and it is upon a knowledge of these that the success of obstetric medicine principally depends.

It had been remarked by some of the most eminent accoucheurs of this and other countries, that in some few cases where an upper extremity of the child was detected as the presenting part soon after the commencement of labour, the nature of the presentation became materially altered before the process was wholly accomplished. Dr. Denman was the first English physician who directed the attention of practitioners to this interesting phenomenon, and which he designated "the spontaneous evolution of the fœtus." The arm or shoulder, he imagined, sometimes presented, but, by the power of the natural efforts, the child turned upon its own axis, the nates ultimately became forced into the pelvic cavity, which compelled the part originally presenting to recede into the uterus. This explanation, however plausible it appeared to some, failed in proving satisfactory to others. Dr. Douglas ably combated the theoretical doctrines of Denman, while at the same time he illustrated his particular views of the subject by the publication of seven cases which had occurred under his own observation.

The two following cases which I have recently met with in my own practice, will prove strong corroborative testimony to the opinion that no spontaneous evolution of the fœtus ever takes place, but that the child, by the extraordinary exertion of the uterine power, is merely expelled in a doubled position.

Case I.—Mary Davey, ætat. thirty-six, residing in Turner's-court, St. Martin's-lane, a poor woman, of short stature, a delicate constitution, and arrived at the full period of utero-gestation, was seized with labour early in the morning of the 1st of June, 1826. On the subsequent day, in the evening, I was sent for by the midwife in attendance. Upon entering the chamber, I observed that the uterine power was exceedingly and most fearfully exerted; large drops of perspiration stood upon her forehead and neck, and there was scarcely a minute's interval between the pains. On making an examination per vaginam, I found the shoulder pressed into the inferior aperture of the pelvis, the head having dropped through the os externum. The idea of turning could not be for a moment entertained under existing circumstances, and I found, during a few forcible contractions of the uterus, that the body of the child had become so compressed into the lower division of the pelvis, that a portion of the thorax could be detected almost at the os externum.

Having waited a few minutes to reflect upon the best means I could adopt to meet the exigencies of the case, a pain of augmented severity came on, which caused the woman to scream violently. The midwife now, and as it appeared by design, raised the bedclothes, when I had an opportunity of ascertaining, by ocular demonstration, the precise mechanism of the labour. The arm had already passed through the external parts from the posterior part of the pelvis; by a forcible uterine contraction, the nates appeared, and during the same pain the whole body was expelled. It must be remarked, that the arm neither retracted nor changed its original position in any part of the process. The head was extracted without much difficulty, the child being dead.

The unfortunate subject of this case, whose constitution, as was before remarked, had been always weakly, died the following morning from exhaustion, the effect of the over active uterine power, and great general disturbance of the system.

Upon an examination of the body, the space in the antero-posterior diameter of the pelvis was found not to exceed three and a half inches, although the child was of the usual size. These are circumstances which materially add to the interest of the case. The uterine parietes were softer than natural, and appeared of a dark gangrenous colour.

Case II.—The wife of a respectable tradesman, residing in the Waterloo-road, forty years of age, and of a robust constitution, was seized with the pains of parturition on Sunday morning, October the 21st, 1827, being the third labour. On my arrival at 10 A. M. I found her standing on the floor, notwithstanding the uterus was contracting with extraordinary force every three or four minutes. At my request she immediately got into bed, and having made the usual examination, the right hand of the child was discovered at the os externum, the shoulder under the symphysis pubis. In this, as in the former case, the efforts of the uterus were most powerfully exerted, and I observed that, during the two subsequent pains, a portion of the chest of the fœtus had arrived at the external parts. I now resolved to confide (at least for a time) in the natural powers, and for the following reasons: first, from the parturient action being most excessively severe; secondly, the whole of the shoulder, and part of the thorax, were rapidly approximating to the os externum; and thirdly, the parts were relaxed and lubricated by a plentiful secretion of mucus. That I might not come to any erroneous conclusion regarding the mechanism of the case, I held the hand of the child loosely within my own, by which I was again enabled to perceive that, so far from the original presentation retracting, scarcely any movement whatever took place in it during the process.

Within twenty minutes from the first examination, the breech presented, and the child was expelled, as in the other instance, without artificial assistance.

It is necessary I should remark, that the patient had only arrived at the eighth month of pregnancy, and the child was dead; a circumstance attributed to an accident which occurred about ten days previous to the coming on of labour. The mother did well.

In obstetrics, as in the practice of all the

other branches of medicine, the interests of science and humanity demand from us a due attention to the capability and resources of nature; that we should investigate into, and be strict observers of, her operations; and that we should unite in drawing a line of demarcation between cases which require the scientific interference of art, and others which may be safely entrusted to the unaided exertion of the natural powers. Dr. Douglas, in his well known pamphlet, published in the year 1819, "the Spontaneous Evolution of the Fœtus," states his conviction that at least one-third "of all cases of cross birth" ought not to be subjected to artificial turning. Now, if this belief, founded unquestionably on fact and observation, approaches in any degree to the truth, is it not somewhat extraordinary that so little attention has been paid to a subject which is of such vast importance to the science of obstetrics, and, as a natural consequence, to the best interests of society? After some practical attention to this interesting part of obstetric pathology, I have been led to the following conclusions, not without a hope of seeing them confirmed by the experience of others.

That when the arm and shoulder, together with a portion of the thorax, of the child are detected at the os externum,—when the uterine vigour is most powerfully exerted, and the woman bears down involuntarily with all her strength,—when the parts are disposed to relax freely, there being a due secretion of mucus, and the mother has previously borne children, the practitioner should not interfere. To these may be superadded a healthy conformation of the pelvis, the full period of gestation not having arrived, and the child being dead. Under all the circumstances above mentioned, more particularly the concurrence of great uterine activity, a fair opportunity should be permitted for the accomplishment of labour by the natural powers alone. I cannot coincide with Dr. Denman's theory, "that a child of the common size, living or but lately dead, in such a state as to possess some degree of resilition, is the best calculated for expulsion in this manner." On the contrary, I am induced to believe that the resilition spoken of would materially contribute to the resistance opposed to the uterine power, and, instead of facilitating, would rather prove an additional obstruction to the accomplishment of the process. That when the arm of the child is protruded into the vagina, it never again recedes to make room for the nates or any other part, as imagined by Dr. Denman, and therefore that the young practitioner would be led into a practical error if he waited for its occurrence as a mattter of course.

It is, however, much to be feared that such cases as I have detailed but rarely occur; at least, that they form a small portion only of what are commonly denominated preternatural labours, and, therefore, that although the practitioner possesses a knowledge of the fact that occasionally, in presentations of the upper extremities, the process of labour is accomplished without the interference of art, yet, as it is not possible to calculate, with any degree of accuracy at the commencement of a case, upon its probable termination, so will it be judicious to turn and deliver as soon as the condition of the uterus will permit; and again, on the other hand, where procrastination has usurped the place of prompt measures; when the arm is wedged in the pelvis, and the uterus is morbidly exerting its tonic contractions,—and the death of the infant is unquestionably marked,—to pursue a mode of treatment more compatible with the safety of the mother, in removing the arm, or by a further mutilation of the child, to enable the operator to bring it with greater facility through the pelvis.

From the Revue Medicale.

OPENING OF THE FORAMEN OVALE, *with general contraction of the Arteries, unaccompanied by Cyanosis.* By M. Miquel.

Jean Antoine Adam, toyman, aged thirty-six years, entered La Charité under the care of Professor Cayol, 22d August, 1825; his complexion was fair and florid, stature small, and excepting occasional paroxysms of dyspnœa, returning at irregular periods, and terminating sometimes in syncope; he had never undergone any serious disease. He was married, and had several children, without having observed any increase in the frequency of the attacks, which generally varied from one to two monthly, and were supposed by him, to be of a nervous character.

At the age of thirty years, without any change in his habits or manner of living, mental or corporeal commotion, or any evident cause, the paroxysms suddenly assumed an unusual intensity and frequency; during eight days, two, three, and even four, occurred in the twenty-four hours, with such severity as to threaten existence; his countenance immediately became flushed, and acute pain in the head and region of the heart, with strong pulsations of the latter, and the neighbouring arteries, continued for the space of a minute, when he became pale, and syncope supervened; from which state he was recovered by the usual means. After the lapse of one paroxysm, he enjoyed his usual health, till the accession of another. It may be well to state, that the disease in its commencement, was mistaken for a malignant fever, and that cinchona in substance, was given in large doses, with the view of arresting its course; far from mitigating the symptoms, they were all augmented in consequence of this treatment.

After having passed a week in this state of vacillation, between life and death, a further change took place on the eighth day; the dyspnœa, which had before occurred at intervals, now became almost continual, accompanied with extreme anxiety, violent palpitations of the heart, intense cephalalgia, &c. Venesection was directed, and was productive of immediate and great relief; the patient continued to enjoy an exemption from the more violent symptoms, for about a month after,

when they reacquired their previous intensity, and the operation was repeated with the same success, as before. It was to this means indeed, performed monthly, and the frequent application of leeches, to remove the local pain and congestion, that the unfortunate patient referred the preservation of his life for the last six years; he thought it no exaggeration to say, that the number of leeches which had been applied since the commencement of his disease, exceeded six thousand.

The following were the symptoms, presented at his entrance into the hospital; countenance pale and emaciated, without the slightest tint of blue; respiration short, hurried and laborious; orthopnœa, a slight but troublesome cough; the thorax returned a good sound upon percussion, and the respiratory murmur was heard remarkably well throughout; the whole body was agitated by the violent action of the heart, the tumultuous and irregular pulsations of which, were particularly distinct on the left side, where a hissing, or grating sound was also perceptible. The sound was dull over the precordial region; the pulse small, unequal and intermitting, contrasted with the action of the heart; the lower extremities were œdematous. The abdomen enlarged and tense, presented an evident fluctuation; the extremities were cold, and the temperature of the whole body appeared lower than ordinary. With the exception of a slight degree of constipation, there was no disturbance in the digestive functions.

From a consideration of the preceding symptoms, M. Cayol drew up the following diagnosis; *hypertrophy to a considerable extent, of the left ventric e, with contraction of the orifice of the aorta, arising from an incipient ossification of the sygmoid valves.* A diuretic ptisan was prescribed, with half a drachm of the acetate of potash, and a mixture with the same quantity of laurel water.

On the 24th, and the two succeeding days, the abdomen increased in size, the constipation and paucity of urine continued, the œdema extended to the thighs; the countenance was bloated, and the hissing sound above mentioned, assumed still more of a grating character. The quantity of the acetate of potash was increased to a drachm, and an ounce of the oxymel of squills was added to the portion. 27th and 28th. The patient continued to grow worse; he could respire only in an upright position, his abdomen and lower extremities were much distended, the secretion of urine had almost entirely ceased; the tumefaction of the face increased, the anxiety was extreme, pulse almost imperceptible, a general coldness over the whole body, and the suffocation imminent.

It is unnecessary to continue longer, the diurnal detail of symptoms, which, with some momentary alleviation from the fumes of stramonium, terminated in the death of the patient on the 11th of the following month; a few days previous to this event, emphysema was detected at the base of the right lung, extending subsequently, to the left. Upon dissection, thirty six hours after death, the body presented a remarkable degree of paleness, without any of the rigidity of death; the heart, distending the pericardium, and compressing the left lung, was at least twice its natural size. The parietes of the left ventricle were firm and thickened, and its capacity about a third greater than ordinary; the auricle of the same side, was also dilated and thickened in structure. Several coagula of blood were found in the right ventricle and auricle, which cavities were about a moiety greater than usual, without having undergone however, any considerable increase of thickness. Between the two auricles, there was an opening about the size of a two franc piece, with smooth and rounded margins, evidently the non-obliterated foramen ovale. The pulmonary veins were considerably dilated, as far even as the centre of the pulmonary tissue; their lining membrane was of a vivid red, especially in the neighbourhood of the left auricle, which was also of a deeper colour than ordinary. The mitral valve was rough to the touch, and contained four or five ossifications, about the same number of lines in diameter. The aorta, throughout its whole extent, was contracted to less than half its natural calibre, and it was only by dint of considerable exertion, that the index finger could be introduced into its largest part; the contraction was greater at its origin, by reason of the ossification of the valves, and scarcely admitted the introduction of the little finger. The parietes of this vessel were sound throughout, with the exception of three or four minute ossifications, immediately above the valves. All the arteries of the body participated in this diminution of volume, scarcely equalling in diameter those of a child twelve years of age; the iliac and carotid arteries would have admitted with difficulty, the introduction of a writing quill.

There were no adhesions observed in the lungs; that on the right side, presented in its two inferior thirds, a combination of vesicula and interlobular, emphysema; the branches of the bronchiæ and pulmonary veins, were found considerably dilated. The left lung slightly compressed, and pushed backwards by the enlarged heart, was crepitating throughout, with the exception of its inferior lobe, in which there was an engorgement of sanguineous serum; it was slightly emphysematous.

The appearance of the abdominal viscera, did not differ greatly, from that observed in ordinary cases of ascites.

Remarks. Besides the absence of cyanosis, which has been noticed as one of the most important circumstances connected with the preceding case, it differs in several other respects, from those hitherto recorded upon the same object. Thus, where the foramen has remained unobliterated after birth, independently of the blue colour, which is frequently met with, but which would appear not to be necessarily, the result of the mixture of black and red blood; physicians have described as invariable concomitants, diminished temperature of the body, habitual dyspnœa, constant

palpitation, and frequent syncope. In the numerous cases of the *re-establishment of the foramen ovale in adults*, collected by Corvisart and Laennec, these great physicians have constantly observed that it was preceded by a fall, blow, or some violent physical commotion of the chest. Now, in the present instance, we are unable to determine positively, whether it should be considered as a case of the *non-obliteration* or *re-establishment* of the foramen ovale, for, on the one hand, till the thirtieth year of his age, the patient had not been afflicted with constant dyspnœa, or palpitation, and with the exception of the occasional paroxysms before mentioned, had ever enjoyed the best health; while on the other, we do not observe the characteristic symptoms of the particular disease of the heart, under consideration; that sudden invasion attendant upon the re-establishment of the opening in adults; nor the external causes, coinciding with the appearance of the symptoms. The violent palpitations, syncope returning twice during the month, and the pain in the region of the heart, sufficiently indicate this organ as the seat of the disease, but how are we to account for the intermission of the symptoms? One of two things must be admitted, either the mixture of red and black blood continued from birth, and consequently the symptoms found in authors as indicative of the disease, may occur paroxysmally, leaving the patient in ordinary health during the intervals, and only become continual, when the diameter of the opening has acquired a certain magnitude; or, what is not less curious, the mixture of the two fluids, prior to his thirtieth year, took place only occasionally, giving rise to the symptoms above narrated. In what then, it may be asked, consisted the essence of the malady? Can it be referred to a spasm of the heart, a neurosis of the nature perhaps, of angina pectoris, which (the complete union of the valvular folds of the foramen not having taken place, a circumstance frequently observed in dissections) permitted, for a short period, the communication of the two venticles, and thus suddenly occasioned the vivid commotion of the heart and head, syncope, &c?

The universal contraction of the arteries, is also a very rare and singular circumstance, the annals of medicine afford only four or five similar examples; and it is not improbable, that this disposition may have exerted some influence upon the formation of the opening, either in exciting the spasm above mentioned, or by giving rise to the hypertrophy of the left auricle, which would have augmented the impulse of the blood against the disunited parietes.

We may remark also, the accuracy of the diagnosis of Professor Cayol, and how much the organic lesions were in accordance with the symptoms developed during life. With the exception of the existence of the foramen, all was known prior to the autopsis; that indefinable and tumultuous *bruissement*, noticed by Corvisart in this affection, was several times observed; the dullness of the sound, and impulsion against the left side of the chest, was explained by the hypertrophy of the left side of the heart; the grating sound, by the ossification of the valves; the smallness of the pulse, by the contraction of the arteries; its irregularity, by the obstruction at the origin of the aorta; and the sonorousness and unequal crepitating râle, by the pulmonary emphysema. In relation to the dilatation of the pulmonary veins, and right cavities of the heart, it was impossible *a priori* to recognise their existence,—they are sufficiently explained, however, by the extensibility of the parietes of the former, and the retrograde movement of the blood, unable to pass through into the left ventricle.

From the London Medical Repository.

ON THE INTERNAL EXHIBITION OF THE ACETATE OF LEAD.

The above journal contains some interesting observations and experiments, by William Laidlaw, Esq. Surgeon, on the internal administration of the Acetate of Lead, "Chiefly with a view of determining to what extent it may be safely administered in the cure of disease, especially in Uterine Hæmorrhages." As the practice of exhibiting this article in large doses, is by no means new to American physicians, we have thought that the paper in question would well admit of abridgment; the rather, that from its length it would otherwise encroach upon space, which will perhaps be more advantageously occupied by other articles.

After observing that no argument drawn from the ill consequences attending the gradual introduction of this mineral into the system, could be adduced as equally precluding its judicious employment, by which he understands, "the administration of it in such quantities as shall most speedily, and therefore most safely, cure the disease for which it is exhibited;" and adverting to the inadequacy of the experiments of Orfila, whose object indeed was limited to determining the effects arising from the operation of excessive quantities of the article, with a view to the adoption of the most proper remedial measures; Mr. Laidlaw relates an experiment made upon himself, in order to ascertain to what extent it might be safely carried. He commenced with the following formula:—℞. *Plumbi superacetatis* ʒj; *opii gr. viii; e xtracti gentianæ* ʒj; *acidi acetici dil. q. s.; subige in massam dividendam in pilulas octodecim æquales, e quibus, ter quotidie una sumatur.*

"Sept. 12th. When the taking of these pills was commenced the health was perfect, and no deviation from this state was observed till the evening of the 14th, when the pulse was found somewhat slower, and a metallic taste in the mouth.

16th. The last two pills on the 14th were taken within two hours; no unpleasant effects have been experienced from that circumstance; pulse, whilst in bed, sixty, and indistinct; after exercise, sixty-four, and more distinct; metallic taste stronger, with some ten-

derness of the gums; but having been engaged for some days in putting up preparations in a solution of the muriate of mercury, am in doubt whether the tenderness of the gums is to be attributed to this circumstance or to the acetate of lead. Forty grains having now been taken, the last seven within two hours of each other, without any other perceptible inconvenience having been produced than a metallic taste, and perhaps some tenderness of the gums and constipation; it was now wished to ascertain the effect of a larger dose; ten grains were therefore taken at once: immediately after, slight pain of the stomach and nausea were felt; pulse fifty-eight, and weak.

17th. Hora septima, A. M. Pain of stomach and nausea did not increase after last report; sleep much disturbed from dreams; pulse whilst in bed fifty, and so indistinct that it was counted with difficulty; no stool since the 12th; urine diminished and high coloured; some inconvenience experienced from weakness, especially at the knees.

Hora octava, P. M. Pulse fifty-six; weakness continues; pain of stomach increased; took ten grains of the extract of colocynth, and two of opium.

18th. Hora quarta, A. M. Was awoke at this hour with severe and unremitting pain of stomach and nausea; vomiting suppressed with difficulty. Immediately took three drachms of the sulphate of magnesia in solution; pain instantaneously much relieved; shortly after went to sleep; awoke at seven, and found the pain entirely gone; repeated a similar quantity of the sulphate of magnesia; pulse sixty, weak but distinct; weakness of knees somewhat diminished; urine more free, of a dark olive colour, and sweetish.

The pain did not return, and without further assistance from medicine, in a few days, I had perfectly recovered from every unpleasant sensation. When the experiment was commenced, paralysis and convulsions, which are the severest, but rather the accidental than the usual effects of the introduction of this salt into the system, were not much dreaded; but it certainly was expected that I should have been able to have continued it until colica was induced. The interruption which prevented this effect, I think there can be no doubt, must be attributed to the last dose, ten grains. I shall, however, shortly resume the experiment, and hope, by continuing the three-grain doses, to be able, by the result, to ascertain not only the most appropriate quantity for a dose, but also the extent to which it may be safely given for the cure of diseases, without the hazard of inducing others.

In the mean time, it is presumed, it will be deemed allowable, from this experiment, to infer that the acetate of lead, combined with opium, may be given in fully three-grain doses, to the extent of ten grains for five days successively, without danger of inducing colica pictonum.

This much, I think, may be safely asserted, both as to the mode of its exhibition and ultimate extent. Because although uneasiness was experienced, yet that uneasiness was, unequivocally, not colica, but gastrodynia, and it is presumed, was evidently referrible, not to the aggregate amount of the acetate of lead taken, but to the excess of the last dose; not to the specific effect, as colica is presumed to be, but to the styptic quality of the salt. The sensation, excepting the nausea, precisely resembled in kind, though much greater in degree, what I have often experienced from eating acid fruit, such as sour plums. That the pain arose from the styptic quality of the salt, appears to be corroborated by the instantaneous relief obtained, as I conceive, from the decomposition effected in the stomach by the sulphate of magnesia. Besides, in colica pictonum all kinds of ingesta, for the most part, increase the pains, and the disease requires days, if not weeks, to be subdued; but the removal of the pain in the experiment was almost instantaneous.

No perceptible inconvenience was felt as long as the doses, which were somewhat more than three grains, were continued as at the commencement, and only slight nausea when two of them were taken within two hours; from which it may be presumed that, in severe cases of uterine hæmorrhage, such doses may be given every second or third hour, until the discharge is suppressed, nausea induced, or fifty grains taken.

Of the influence of this salt on the animal economy, that on the circulation appears most worthy of attention. The pulse, at the termination of the experiment, was as slow as fifty pulsations in a minute. It was observed to be similarly affected in four of the six cases of colica pictonum quoted by M. Orfila from the dissertation of M. Merat.* In one of these cases it was so slow as to give only forty pulsations in a minute. This sedative property is particularly valuable in hæmorrhage, by diminishing generally the irritability of the whole system, and especially that of the affected part, and consequently, the impetus of the circulation, to some extent. To obtain this effect, rest and quiet must be strictly maintained, for even by gentle exercise the pulse rose from four to ten pulsations in a minute.

But as a valuable remedy in hæmorrhage, not only are its sedative properties to be considered, its decisive astringent qualities are also to be taken into view. These seem to operate, not only when immediately applied to the affected part, but also, nearly with equal success, when extended by sympathetic action. These were in some degree evinced in the experiment, by the diminished secretion of urine, and the constipating effect on the bowels. But more decisively are they marked in the cases with which this paper is concluded, where the suppression of the discharges is distinctly and unequivocally referrible to their operation. The vast superiority of this medicine, to every other of its class, appears to depend, not on either of the above

* Vide Toxicology, Vol. I. p. 466 to 473.

properties taken separately, but on their conjoint action, and that too in a way peculiar to itself; for the combination of sedatives and other astringents is not found to produce similar effects. In the severe case of hæmatemesis where this was tried, no perceptible impression was made in checking the malady; but the operation of this invaluable remedy was conspicuously decisive. The vomiting never returned after the first dose. It is also, perhaps, to the conjoint operation of the sedative and astringent properties of this medicine, that the vertigo in case third, was removed at the same time that the hæmorrhage was suppressed. And to the same, I attribute its valuable results in all diseases, where it is an object of importance to suppress either hæmorrhages or increased secretion, such as happen in epistaxis, hæmoptysis, hæmatemesis, hæmorrhagia purpura, hæmorrhois fluens, menorrhagia, hæmaturia, leucorrhœa, gonorrhœa, diarrhœa, and dysenteria.

In its exhibition, it is indispensable that it should be in all cases combined with opium. The proportion of opium requisite will, necessarily, vary according to the peculiarities of the constitution of those to whom the salt is to be administered. In general, however, one of opium to eight of the salt, will be found sufficient to prevent griping. If that be inadequate, it must be gradually increased, until the inconvenience is obviated.

Perhaps crumb of bread makes the best pill mass, or equal parts of that and extract of gentian, with a sufficient quantity of distilled vinegar or water. As sugar partially decomposes it, neither conserves nor sirups are proper for the formation of pills. As it is very easily decomposed, to insure its proper effect, it is of importance, during its exhibition, carefully to avoid not only the alkalies, neutral salts, and mineral acids, which decompose it rapidly, but also the alkaline earths, and their carbonates, which, although they do not produce that effect so entirely, yet diminish its properties so materially as greatly to vary its results. Broths also decompose it, and likewise porter. But what ought particularly to be remembered, as most likely to be overlooked, is, that the same effect is produced by a strong infusion of tea. Wine does not affect it with the exception of Burgundy. But so much is it disturbed by a variety of other articles of food, that I always order it, if possible, to be taken equi-distant from meals. If the stomach can bear it, a wine-glassful of equal parts of distilled vinegar and water, half an hour after each dose, will render its effects more certain."

The observations of Mr. Laidlaw are continued in the next number of the Repository.

"Having been unexpectedly interrupted in the essay to ascertain the maximum which might be taken without inducing other diseases, especially colica pictonum, I stated that that attempt would be shortly resumed. It has now been accomplished, and again interrupted, after having taken seventy grains, by other means than the dreaded colica pictonum. The details of the first experiment are now before you, and if you shall judge temh worthy a place in your Repository, the details of the second will also be forwarded to you.

The trials I have made on myself have been in the solid form only. To hear of these experiments having been repeated would afford me much pleasure, but it would be still more gratifying were similar attempts made to ascertain the precise properties of the salt in solution. In this form it certainly acts more instantaneously, extensively, and energetically, than in the solid form.

Orfila found, by injecting thirteen grains of the acetate of lead, dissolved in a drachm and a half of distilled water, into the jugular vein of a small and weak dog, that the injection was hardly accomplished when the animal made three or four deep inspirations, and died, without the least sign of pain or convulsions. He was instantly opened, and the heart was found to beat forcibly. In a second experiment, five grains, dissolved in two drachms of distilled water, were injected into the jugular vein of a robust dog of middle size; the issue was more protracted, but was ultimately equally fatal; for the animal, after having shown symptoms of the nervous system being affected, died on the fifth day. In another experiment, ten grains of the acetate of lead, dissolved in two drachms of distilled water, were injected into the jugular vein of a dog of middle size; the animal appeared suffocated, his respiration became difficult, panting, and precipitate; and he died in thirty-five minutes after the injection.*

Orfila remarks on these experiments, that the cause of death appears to depend on lesion of the nervous system. But by what property of the salt he conceived this lesion to be produced he does not explain. He ranks the salt as an astringent poison, that frequently exerts its action on the nervous system. But it is not easy to conceive how the operation of an astringent property merely could so instantaneously destroy life. It is presumed to be more probable that, when directly introduced into the system, by injection, it is capable, by its sedative quality, of immediately affecting the brain, paralysing the muscles of respiration, and occasioning death by suffocation. In the first experiment, the animal, after the introduction of the solution, made only three or four deep inspirations, and died.

In the third experiment, after the injection of the solution, the animal appeared suffocated, his respiration became difficult, panting, and precipitate, and he died in thirty-five minutes. The circumstances attending the death of the animals in these two experiments, very much resemble the symptoms which occurred in the experiments of Mr. Brodie, when he employed for the poison alcohol, essential oil of bitter almonds, and the empyreumatic oil of tobacco, of the sedative effects of which on the brain, there can be no doubt.

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* Toxicology, Vol. 1st, p. 459, 460. Exp. I. et II. III. in a note, p. ibid.

Now although the quantity of the acetate of lead recommended to be given in the fluid form, for the cure of diseases, is neither by any means so great, nor, from the mode of its administration, is such facility afforded for its nervous communication as in these experiments, yet, from the effects being unquestionably more rapid, as well as more diffusive than in the solid form, its exhibition will demand proportionally greater caution.

In the severe case of hæmatemesis, case 4th, in which I employed it, it was given in the proportion of two grains for a dose, to be repeated every fourth hour, should the vomiting of blood return. Six grains in all were exhibited, but as the vomiting did not recur after the first dose, perhaps not more than the second was absolutely necessary. Ten grains, in the solid form, have been taken by me for a dose, and perhaps some may deem even this injudicious, but after the experiments of Orfila, to attempt a similar quantity in the fluid would be extremely so.

Whether the solid or the fluid form is employed, the constitution appears very soon to be brought under the influence of its operation. On the second day, I perceived the metallic taste slightly, but on the third it was distinct. The operation of the fluid, however, is much more rapid, diffusive, and energetic, as appears both from the experiments of Orfila, and case 4th. From this distinction, there may be cases which obviously point out the employment of the one form in preference to the other. As when it is an object to produce the effect suddenly, or where the first impression of the remedy seems to be made by sympathetic action, as in hæmoptysis, epistaxis, the fluid form is indicated, and also in hæmorrhagia purpura, where sometimes the hæmorrhage is universal, the same indication holds good. But in diseases where the remedy is either brought into immediate contact with the affected parts, or nearly so, as in diarrhœa, dysenteria, hæmorrhois fluens, or in hæmorrhagia uterina, the solid form appears the most appropriate.

Case 3d.—K. E., aged 30. 1st August 1827. Has had three miscarriages in succession, viz. one in March, 1826; one in the August following, of twins, from which she suffered severely from flooding; and one in January last, that occasioned still more distress from a similar cause. During the first six weeks of her present indisposition, she has not been well for a longer period than from three to seven days at a time, and when the attacks recurred, they generally continued from ten to twelve days without intermission. Previous to the last miscarriage, she sustained much inconvenience from vertigo; its severity was so great, as to render her incapable of walking without assistance, and even continued after the miscarriage, to such a degree as to induce her medical attendant to decline employing the necessary means for the suppression of the discharge from which she was daily suffering. Subsequently, however, for this purpose, she took mixtures to the extent of twelve half pints, without benefit, and then was advised to go into the country. The discharge still continuing to harass her, she became much debilitated, and very irritable, so much so, that even moderate exercise, or sudden alarm, brought on severe flooding. In July last, in one of these attacks, she lost from two to three quarts. At present a full pint is lost daily; the vertigo is so severe as to affect the sight. She is weak in her person, and desponding in her mind, from the supposition that she cannot recover: pulse 76, rather weak; appetite good; bowels regular.—℞. Aluminis purificati, ʒss.; zinci sulphatis, gr. viii.; magnesiæ sulphatis, ʒij; infusi rosæ, ʒiiiss.; syrupi rosæ, ʒss. Misce fiat mistura cujus, quater quotidie cochlearia duo ampla sumenda: Let the recumbent posture be constantly maintained.

2d.—Medicine taken, complaints continue the same. Repetatur medicamentum.

3d.—No alteration in the discharge; vertigo is undiminished. Intermittatur medicamentum.—℞. Tincturæ kino, ʒii.; aquæ cinnamomi, ʒiss.; syrupi aurantii, ʒss. Misce fiat mistura cujus, quater quotidie cochlearia duo ampla sumenda.

4th.—No perceptible alteration either in the discharge or vertigo has taken place. Repetr. mistura ut antea.

5th.—Discharge still continues undiminished; vertigo rather increased; bowels confined. Intermittatur medicamentum.—℞. Plumbi superacetatis, gr. xii.; opii, gr. ij.; medullæ panis, ℈j.; acidi acetici, dil. q. s. Fiat massa dividenda in pilulas sex æquales, e quibus statin unam capiat, et si opus sit, omni horâ secunda repetatur. ℞. Rhei radicis contriti., jalapæ radicis contritæ ā ʒss.; aquæ distillatæ q. s. Subige in massam dividendam in pilulas sexdecim æquales, e quibus pro re nata, duas capiat donec alvus leviter solvatur.

6th.—The six pills of the acetate of lead taken, and eight of the laxatives; discharge is somewhat diminished; the bowels moved once. Repetr. pil. plumbi superacetatis ut antea.

7th.—Discharge continues to diminish; vertigo also somewhat abated in severity; no pain of stomach, or nausea; slight pains of the abdomen.—℞. Plumbi superacetatis, gr. xii.; opii, gr. iv.; extracti gentianæ, medullæ panis, ā gr. x.; acidi acetici, q. s. Subige in massam dividendam in pilulas sex æquales, e quibus statim unam capiat, et si opus sit, quâque horâ secunda repetatur.

8th.—Discharge appears only occasionally, and then in a slight degree; vertigo gone; no pain of stomach, nor nausea; pains of the abdomen gone; pulse 62, weak. Rept. pil. ut antea.

9th.—Two only of the pills taken; discharge has entirely disappeared; vertigo has not returned; pulse 62, weak; bowels have been kept gently open with the laxative pills. Intermittatur medicamentum.

13th.—No return of the discharge or vertigo; pulse 70, and of good strength; bowels regular.

This patient, after having taken twenty-four

grains of the acetate of lead, had pains in the abdomen, which certainly were produced by it; but they were entirely removed by increasing the proportion of opium on the 7th. From her circumstances in life, she was unable to give that attention to rest and quiet which is so necessary in such complaints, and, without doubt, much protracted the cure; but no permanent inconvenience arose from that circumstance. I saw her last month, she was much improved in her general health and appearance; there had been no return of the hæmorrhage nor vertigo; the catamenia had become perfectly regular.

Case 4.—E. J., aged 50. 8th May, 1827. Two years ago the catamenia ceased, and in about three months after this cessation, she began to expectorate blood every fourth or fifth week; was also affected with headach, and severe pains in the back. For these complaints, she had been cupped, and had taken a great variety of cathartic medicines without any marked relief. The quantity of blood hitherto expectorated had been inconsiderable; but this morning above a pint had been vomited at once. A cathartic mixture, composed of the sulphate of magnesia and the infusion of senna, was ordered, and directed to be taken so as to act freely on the bowels. On the 11th, notwithstanding that the bowels had been fully moved by the medicine, she suffered much from vertigo; had a fall from that circumstance, and received a wound on the right temple. After the fall severe sickness supervened, and she is reported to have vomited a large wash-hand basin two-thirds full of blood; vertigo still severe; pulse 70, and of good strength.—℞. Mittatur sanguis e brachio ad ℥xii.; applicatur emp. cantharidis nuchæ. ℞. Aluminis purificati, gr. x.; acidi sulphurici, dil. gutt. xv.; magnesiæ sulphatis, ℥iii.; infusi rosæ, ℥xii. Misce fiat haustus, omni horâ sexta sumendus.

12th.—Vertigo much relieved from the bleeding, but is still troublesome; blister rose well, and discharges much; bowels open; pulse quick, small, and tremulous. Is reported to have vomited this morning nearly two quarts of blood. Continuetur haustus ut supra præscriptus.——℞. Tincturæ opii, gutt. xv.; aquæ menthæ, pip. ℥j.; syrupi simplicis, ℥ij. Misce fiat haustus, ter quotidie sumendus.

13th.—No vomiting since yesterday; bowels open; pulse full, and frequent; was affected with delirium during the night.

Hora Tertia, P. M.—Was requested in haste to visit the patient, as she appeared to be dying from the large quantity of blood which she had just vomited, reported to be above two quarts. She was found much exhausted; pulse at the wrist with difficulty could be felt, was small, frequent, and intermittent; countenance sunk, and of a death-like aspect. Intermittatur medicamenta.—℞. Plumbi superacetatis, gr. xvi.; tincturæ opii, ℥j.; acidi acetici diluti, ℥xv.; aquæ distillatæ, ℥ij. Misce fiat mistura cujus statim cochlear. unum amplum adhibeatur, et si opus sit, quâque horâ quarta repetatur.

14th.—Three doses of the mixture have been exhibited; no recurrence of the vomiting since the commencement of taking it; has had a good night; pulse small, and frequent, but not intermittent. Intermittatur mistura.

Hora Octava.—Vomiting has not recurred; pulse 100, more distinct, and somewhat stronger.

15th.—No recurrence of the vomiting; vertigo gone; countenance slightly improved, but exhaustion still very great; pulse 90, and improves in strength.

16th.—The exhausted state of the patient is still alarming, but there has been no recurrence of the vomiting; the countenance continues to improve; pulse 90, and maintains the strength of yesterday.

The vomiting never returned; and although, from the extreme state of exhaustion to which the patient had been reduced, her recovery for some time was rendered doubtful; yet by cordials, light nourishing diet, and other necessary treatment, she slowly, but gradually increased in strength: and so much had she improved in this respect in July, that it was judged necessary, from symptoms of vertigo, she should lose a small quantity of blood; and in September, for the same reason, a similar quantity. By this treatment, she now enjoys better health than she has done at any period since the cessation of the catamenia."

From the Journal des Progres des Sciences et Institutions Medicales.

EXPERIMENTS UPON THE SECRETION OF BILE.

By Simon De Metz, D. M. P.

The biliary secretion is an interesting branch of physiology, still involved in much obscurity, by reason of the difficulties which have occurred to those who have undertaken to demonstrate the mechanism by which it is effected.

Is the bile, formed from arterial blood, in like manner with the other secretions? from that of the vena portæ? or rather do both these fluids concur in its production? Such are the questions that have long been agitated in relation to this secretion, and for the solution of which, I have made a great number of experiments, which appear to me, to throw some light on this subject.

It has been observed that it was extremely difficult, if not altogether impossible, to include in a ligature the vessels of the liver, and I have remarked that this difficulty depended upon the species, and even the age of the animals upon which the experiments are made; thus it is, that what has been deemed impracticable upon dogs,* has afforded results, more

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* "It has been said, that the biliary secretion has continued, notwithstanding the ligature of the hepatic artery; but this ligature cannot be applied, without lacerating the parts

or less satisfactory, when rabbits and pigeons were the subjects of the experiments; and in these two species, I have observed, that the results differed in relation to the intensity of the symptoms produced by the different ligatures.

In the two animals above mentioned, I have been enabled to tie separately, the cœliac trunk, or the hepatic artery; only the vena portæ, or the excretory ducts; and the obstruction thus occasioned in these several vessels, has given rise to different phenomena. But as the experiments made upon rabbits were not so strikingly marked as those upon pigeons; and as the latter, moreover, have appeared to me entirely sufficient for the object in view, I shall confine myself to the detail of those which I have instituted upon these animals.

Pigeons it is known are unprovided with a gall bladder; they are furnished instead with two hepatic ducts; one, through which the bile flows almost uninterruptedly, opens near the stomach; the other, frequently found empty, is longer and more delicate, and terminates further down in the small intestines. The trunk of the hepatic artery is very small, and deeply seated, so that it is difficult to include it in a ligature; it can be accomplished however, by means of very small crooked needles, assisted with the forceps. After the death of the animal, I have invariably injected the vessels, in order to ascertain that the ligatures had been properly applied.

1st. When the two hepatic ducts are tied, the secretion of bile continues, the liver becomes engorged and filled with globules of a beautiful green colour, which are observed principally upon the surface of that organ, tinging the neighbouring viscera, the pericardium, omentum, intestines, &c. Life continued generally from twenty-four to thirty-six hours, and the green colour was the more evident, in proportion to the age of the animal and the length of time it survived the experiment.

From ten to twenty hours after the application of the ligature, an important circumstance occurs, well deserving attention; about this time, the animal discharges per anum, a quantity of green matter, evidently of the colour of the bile contained in the engorged liver. This colouration of the excrement becomes deeper as death approaches. I supposed at first (the natural course of the fluid being intercepted by the ligature) that the bile was absorbed in the liver, and afterwards poured, with the other secretions, into the intestines; but I soon ascertained, beyond all doubt, that the green matter was contained only in the cloaca, where it was brought by the ureters, and that there was no trace of it in the intestines, unless it were in the inferior part of the rectum, where it had regurgitated. MM. Dumas and Prevost have remarked, that the secretion of bile increased, when that of the urine was interrupted; and in this instance we see the kidneys eliminating the bile, which could not be discharged through its natural outlet, affording a proof of the disposition of the liver and kidneys to act vicariously.

2d. A ligature was placed upon the hepatic duct and artery. Twelve hours afterwards the surface of the liver assumed a yellow tinge, which was in like manner imparted to the adjoining viscera; the branches become engorged, announcing the presence of bile. After the lapse of twenty hours, the liver contained a great number of granules, of a green colour, more numerous in the left lobe than in the right. A green matter was found in the cloaca as in the preceding case. If the life of the animal be prolonged to forty hours, the green colour of the liver and excrement be comes still more intense. These last experiments appear to prove, that the biliary secretion continues, long after the afflux of arterial blood has been cut off.

3d. A ligature was applied upon the artery alone. In this case, the hepatic ducts being unobstructed, no engorgement of the liver followed; but after death, it was ascertained that the secretion had continued, bile being found in the ducts, and the contents of the intestines presenting their natural bilious tint.

4th. In this experiment, the branches of the vena portæ and the hepatic ducts were tied. The liver was almost entirely deprived of colour, presenting only a pale rose tint, not unlike that of the lungs of these birds; there was no trace of bile; the intestines contained only a grayish pulp; the muscular coat of the stomach was of a pale red, and its internal membrane, which is naturally always green or yellow, was colourless. The trunks of the meseraic veins alone were engorged, the branches which were distributed among the intestines no longer admitted blood; a circumstance strongly in contrast with what might have been anticipated from the considerable engorgement which was observed immediately after the operation. Several of the pigeons lived thirty-six hours, but in all the cloaca was filled with excrement, without any tinge of green. If only the principal trunk of the vena portæ be tied, the gastro-hepatic veins being left unobstructed, the right lobe, into which they enter, is found fourteen hours after, in its natural condition, while the left is without colour, and presents upon its surface some traces of bile.

From the preceding experiments, the results of which entirely accord with each other, we may conclude:

1st. That the ligature of the hepatic artery does not prevent the secretion of bile.

2d. That the presence of bile is manifest, when at the same time, the excretory ducts are tied.

3d. It can scarcely be doubted that the elements of this secretion, are derived from the blood of the vena portæ; the ligature of this vessel arresting it altogether.

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in such a manner as to render it impossible to distinguish them. I have several times attempted it unsuccessfully."—*Bichat, p. 45, 1st vol.*

From the London Medical and Physical Journal.

ON THE VARIETIES OF CATARACT; *their Causes, Formation, and Cure.*

By S. J. Stratford, Assistant Surgeon 72d Highlanders.

A great difference of opinion still existing in the minds of the profession respecting the causes and formation of cataract, I have been led, from a variety of circumstances, to pay particular attention to this disease; so that I trust the following observations may be deemed worthy of consideration: they may appear novel, but I hope they will be fully supported by future observation and experience.

To comprehend the nature of cataract, we must have a correct idea of the anatomical structure and formation of the parts concerned: we must attend particularly to the connexion between the lens and its capsule, and have a just conception of the minute, delicate, and transparent tissue by which the lens is held in connexion with life and the animal economy; and, if we pay due attention to its natural and healthy condition, we shall be better able to comprehend and appreciate the varieties of its diseases. I shall, therefore, pass briefly in review the anatomical structure of the lens and its capsule, conceiving that it will the better lead us to understand this disease.

The crystalline lens is that transparent body placed upon the anterior surface of the vitreous humour, imbedded as it were in its substance; it is covered and surrounded by a beautifully transparent capsule, which serves to retain it in its proper situation; we observe that the lens is doubly convex, and that in its posterior surface this is much more marked than in its anterior. The lens is formed by very thin concentric lamellæ, superposed upon each other, increasing in density, and finally surrounding a harder nucleus. The more external layers are soft, and easily removed, but the nearer we approach the centre these become more condensed and firm in their texture; as a necessary consequence of this formation, we find the centre considerably thicker than the circumference. The component parts of the lens, chemically examined, seem to consist principally of albumen and gelatine, with traces of several neutral salts; it is firmly coagulated by boiling, or the action of acids. A fact curious in the formation of the lens is, that by the action of heat it is separated into thin equal divisions: this is the separation of its fibrous texture, and no proof of its muscularity, as was imagined by the ingenious Dr. Younge. The lens is contained in its proper capsule, a thin transparent membrane, which is firmly connected to the surrounding textures. This capsule is described by some anatomists to be formed by a splitting of the external membrane of the vitreous humour; but this would form a lamina so very thin, that it would not be strong enough to confine the lens in its situation, but would be ruptured by every motion of the globe. Moreover, if we compare the relative density of this membrane with the capsule, we shall find the capsule considerably thicker than the membrane, especially when it approaches the lens, which must at once convince us of the fallacy of such a conclusion. The capsule undoubtedly is a distinct membrane, firmly connected, and surrounded by the adjoining textures. It is strengthened and supported on the fore part by a reflection of the tunica Jacobi, which, having surrounded the proper matter of the nerve, is continued forward, comes in apposition with, and is connected to, the posterior surface of the ciliary processes and external layer of the hyaloid membrane. At a short distance, however, from the capsule of the lens, this membrane separates from the vitreous humour, and, proceeding forwards, is reflected over the capsule of the lens, firmly adhering to it, and serving to keep it in its proper situation; while the outer layer of the hyaloid membrane is situated behind, and, being closely united to it, assists to fix it in its position. Between the adhesion of the tunica Jacobi to the hyaloid membrane and its reflection over the capsule of the lens, we find a cavity denominated the canal of Petit, or, by the French, canal Godronné; this being regularly crossed by little transparent fibres (in all probability, serous arteries and veins,) passing from the union of these membranes to the capsule of the lens, serving to bind down the former tissue at certain intervals; so that, if we open into this cavity, and inflate it by means of a blowpipe, the air passes easily around the capsule of the lens, and elevates the tunica Jacobi at equal distances, forming a kind of crown, having the lens contained in its capsule for the centre. Within the capsule we find a minute quantity of fluid, which surrounds the lens, and is called the liquor Morgagni, which in all probability is to fill out the capsule, and permit the motion of the lens in the adjustment of the eye to near and distant vision: this fluid must be secreted by the inner surface of the capsule.

It has been said that the lens is not supplied with blood-vessels; that it is only a deposition from the liquor Morgagni by which it is surrounded. That this is not the fact, I am convinced; and I am sure I shall be supported by every rational and thinking mind; for, as the lens is formed by an infinite wisdom for a particular and useful purpose, so must it be supplied with vessels which nourish and connect it with the general system, supporting it in that combination of actions which is a proof of its vitality, and even of its existence as a part of the animal frame. As a positive proof, in the healthy eye we find it perfectly transparent; but, when separated from its connexions, it soon becomes opaque, and is then absorbed: this must convince us that it possesses life, and therefore has vessels circulating through it, by which this life is supported. These vessels pass, I believe, (although I cannot positively demonstrate the fact,) from the

capsule to the circumference of the lens, taking their course through the liquor Morgagni, and carrying a perfectly transparent fluid: so minute indeed are they, that they may be ruptured by a blow on the eye, when they leave the lens as a foreign body, similar to what anatomists would have us to believe was its natural condition. The vessels which supply the capsule of the lens I have often seen ramifying on its surface in the living eye during disease: in their natural condition, however, they are perfectly invisible, being minute serous twigs from the arteria centralis retinæ. The arteria centralis retinæ, having supplied the retina and arrived at the ciliary processes, inosculates freely with the short ciliary arteries, and going forward as serous vessels through the canal of Petit, and by their adhesions causing the roseated appearance already mentioned, they give out minute serous twigs to the membranes forming this canal, while their chief branches go on to supply the capsule of the lens, and even the lens itself: besides these, the twig that passes through the centre of the vitreous humour is finally distributed on that part of the hyaloid membrane which strengthens and supports the posterior part of the capsule of the lens.

In this delicate system of vessels, there must be some which act the part of arteries, conveying and depositing the materials which compose the lens; while again there must be others, which absorb and remove that which has become effete and useless; for it is under this tenure only that the lens can possess life, and form a part of the animal frame.

The uses of the human lens would appear to be similar to the optician's, but it is much more perfect in its construction: it is evidently placed behind the pupil to refract and concentrate the rays of light, so that they impinge with due precision upon the sensible retina, the more essential portion of the organ of vision.

Having thus spoken of the formation of the lens and its capsule, I come to the consideration of the varieties of cataract, which essentially consist in an opacity of the lens, its anterior or posterior capsule, either of which may be separately affected, or all be combined in the same eye. When they are obvious to our sight, they are marked by distinct appearances that seldom or never fail us in our diagnosis.

As a general rule, we may say that an opacity of the anterior capsule is known by its dull white appearance, which something resembles common tissue paper; an opacity of the lens only is marked by its shining surface, which is perceived to be the thin transparent capsule still covering the opacity; and when the posterior capsule only is affected, it takes on a dirty white appearance, and by a practised eye is soon distinguished, from its evident depth of situation. These means of diagnosis will generally serve us, but they will be met with under a great variety of different circumstances, which must be minutely known to enable us to form a correct distinction of the situation of the disease.

The immediate causes of the formation of cataract have long been involved in much obscurity, but, by carefully tracing each variety of the disease from its source, and comparing the several causes and effects, I trust I shall be able to point out on what cause each may depend, which will greatly simplify the description, at the same time that it points out the kind of operation which ought to be used in the cure of these different varieties.

Inflammation is undoubtedly one of the causes of cataract: it may be either acute or chronic, and, with respect to its effect, either complete or partial. When cataract is a consequence of the acute variety, it is always complete; that is, both the lens and capsule have participated in the disease, and have become wholly opaque. This opacity is caused by a deposition of coagulable lymph within their previously transparent tissues: with this we frequently find a closed and permanently contracted pupil, for the most part adhering to the capsule of the lens. This condition of the parts prevents our seeing the peculiarities of the disease; but when the iris is not implicated, or but very partially, in the complaint, we shall observe a dense opaque capsule, which sometimes contains a somewhat enlarged lens. The opaque capsule has the dull white appearance noticed above, which particularly distinguishes it from a lenticular opacity; while, if the lens is enlarged, or there is a greater secretion of the liquor Morgagni, the posterior chamber of the aqueous humour is abolished, the iris sluggish in its actions, and presenting a black mark around its pupillary margin, which is most distinctly seen in a blue eye: this is formed by an eversion of the uvea, or pigment, on the posterior surface of the iris, pushed forward by the increased size of the lens. Sometimes even the iris is pushed out of its position by an enlarged and protruding lens; so that, if the pupil was previously contracted, upon the first application of the belladonna, it becomes largely and permanently dilated, provided it has formed no previous adhesions. The lens has lost its transparency, but we cannot observe it through the morbidly thick and opaque capsule; but, when we come to operate upon it, we shall find that it is not much firmer or harder than the natural structure; a circumstance of very material consideration in the choice of our operation. If any adhesion has taken place between the uvea and capsule of the lens, the application of the belladonna may rupture their connexions, and leave a considerable portion of the pigment adhering to the capsule: this forms a variety of the complaint that has been denominated the Cataracta Choroidalis. The acute progress of the disease is marked by all the symptoms of internal inflammation, such as considerable vascularity of the sclerotic coat, pain in the eye and temple, while generally more or less affection of the iris is present. The effusion of lymph into the transparent tissues is so sudden, that we are seldom able to mark the progress of the disease but by its ultimate effect.

The inflammatory action may be chronic, when the opacity will be more or less complete, according to the intensity or duration of the disease. This morbid action, which I have ventured to designate by the term Chronic Inflammation, generally takes its course slowly, without much pain, so that in some cases it does not rouse the attention or excite the fears of our patient. Sometimes, however, very soon after the commencement of the disease, he finds that objects appear indistinct, and, if examined with attention, they seem covered with a mist, or as though he looked through a glass that had been breathed upon; while, at night, the candle appears to have a halo or brim around its flame. These, indeed, are some of the most distinctive marks of incipient opacity in some of the transparent media: they cannot possibly be confounded with disease or insensibility of the optic nerve; for this always presents to the imagination a dark spot, or general deficiency in the power of vision. If we now apply the belladonna so as to dilate the pupil, (which should be an invariable practice, so that we may observe all the peculiarities of the complaint before we pretend to form our judgment of its kind,) the patient will be better able to distinguish objects, from the dilated pupil admitting more of the rays of light to fall upon the retina. The same effect occurs in the evening or a dark day, which is a symptom that would strongly confirm our suspicions of the nature of the disease, even before we recognise an opacity; while, if the disease is in the nervous texture, sight is best in a good light. These symptoms, I imagine, rather indicate an increase in the density of the fluid circulating in the transparent media; but, should the morbid action go on to the deposition of lymph, it soon becomes visible, upon examination of the pupil. Should the disease subside or be diminished by proper remedies, the lymph may again be absorbed; but, should it become organised, the opacity will be permanent. As the disease proceeds, a number of spots, or opacities, will be observed in the pupil, at regular distances, around the circumference. Sometimes we may perceive two sets,—one in the anterior capsule, more white and distinct; the second of a yellowish muddy colour, marking, by the obvious depth of its situation, that its seat is in the posterior capsule. At this time, too, we may frequently see several triangular shaped stripes, that often take on an appearance like mother-of-pearl, or, if more opaque, look like spermaceti when broken across; and, should these striæ become completely opaque, they form the striated Capsular Cataract. These striæ almost always pass from the circumference to the centre; which peculiarity may, perhaps, be accounted for by the manner in which the vessels pass to the supply of the part. When the disease has arrived at this point, it may remain stationary for years; or, if it go on, it may become complete, the capsule being entirely opaque, as marked by its dull white colour. Before the disease, however, has arrived at this extent, we may observe the lens to put on a bluish white colour, which is more marked in the centre than the circumference, while the partially opaque capsule is evidently seen stretched over it: this by degrees becomes more opaque, but it is generally soon hid from our observation by the dense opacity of the capsule. If at this period we cut up the lens, we shall generally find it of its natural consistency, though in some few instances it may have become harder and rather firm, which, when in situ, is marked by its assuming a darker tint, deeper situated than the capsular opacity; and, if it should become enlarged, it will encroach upon the posterior chamber of the aqueous humor.

I have noticed that the opacity may be partial and remain stationary in the anterior capsule; the same may occur in the posterior, which, as I remarked, is particularly known by its yellowish muddy-white appearance, more or less dense according to the intensity of the disease. It may commence either in the centre or at the circumference, when it takes the form of striæ, which, if carefully examined, may be observed to have a concave shape, evidently (to an eye practised in the observation of these diseases) deeper seated than the lens.

It will, perhaps, be correct here to notice that I have, in several instances, observed opacities evidently deeper seated than the last variety of these diseases: these, I think, may be correctly referred to an opacity in the vitreous humour, which might mislead an inexperienced person with respect to their immediate seat.

Besides the symptoms already mentioned as attending chronic inflammation of the lens and capsule, we shall generally find that there is a greater determination of blood to the eye than usual; and this is especially evident after an examination of the organ. Many distended veins will be seen ramifying in the conjunctiva, while a slight pink-coloured halo surrounds the margin of the cornea; and often the eye is much more irritable than usual.

There is another variety of morbid action producing cataract, much more difficult to understand than the preceding: this always commences in the lens itself, is never observed but in old people, and would seem to be the product of a chronic action bearing some analogy, but evidently differing from the preceding varieties. It is always slow in its progress; so that, when the opacity first commences, the patient experiences the same indistinctness of vision as is mentioned in the foregoing variety: he has the same cloud before the eye, and observes a similar halo around the flame of the candle. The iris commonly acts with freedom, but the pupil is generally dilated, from the diminution of the number of the rays of light that pass through the only partially transparent lens. If we examine the dilated pupil, we soon observe that the lens is of a grayish amber or yellowish colour, more dark at the centre than at the circumference, which obviously depends upon the varied thickness

of the body; and, if the lens only is affected, it has a fine polished surface. As the disease increases, the patient becomes more or less blind, and the lens assumes a darker colour, verging from yellow to a natural brown. Soon after this, we generally observe that the capsule begins to participate in the disease: at first it is but very slightly affected; the lymph is deposited in its texture, it takes on a dotted or variegated appearance, which has sometimes been compared to the white veins of some kinds of marble, and from this circumstance it has been denominated the Cataracta Marmorata. As the affection increases, so the capsule becomes more opaque, and in time perfectly obscures the hard lens, so that at this period we may be deceived in the nature and consistency of the cataract. The only points that will assist our diagnosis is the age of our patient, and the commencement of a similar disease in one of his eyes; for this complaint is not often confined to one eye, although it is seldom equally forward in both. The lens, we find upon an operation, is seldom larger than natural, but it is always observed to be considerably harder: this varies with the depth of its colour, which forms an excellent criterion of its consistency. When we examine it after the operation of extraction, we find that its centre nucleus bears a relative proportion to the general texture of the lens, so that, while the circumference is hard and firm, this has in some instances been said to equal bone in the density of its texture. The capsule, too, in the latter stage of the disease, is always much more tough than natural, is perfectly white in its colour, and opaque in its consistence, so that it effectually obscures the hard lens.

There is still another variety of cataract, obviously differing from any of the preceding; it occurs in all ages, while it is most frequently seen in the infant's eye, and is commonly known under the appellation of Congenital Cataract. In the commencement of this disease, (if we are so fortunate as to meet with a case,) we may observe that the lens at first present a bluish white opacity, still covered by its shining capsule. If we watch its progress, we find the lens gradually becomes perfectly opaque and quite white, but from its colour is obviously soft; after a time its capsule is dotted with opacities, or we may observe streaks upon its surface of the dull white colour before mentioned: these increasing, the opacity becomes general, and now we frequently observe that it contains a fluid, which is of different degrees of density; so that, by attentive observation in the pupil largely dilated with belladonna, we can see, if the eye be kept quiet for a time, that the more white and dense particles have subsided, and now occupy the lower margin of the pupil; but, upon the first motion of the ball, they are again mixed in the general mass, and the cataract assumes an equable appearance. This is the Milky Cataract of some authors. At this period the capsule is commoly swelled out, as may be known by its effects upon the iris: this generally continues for a short time, when its size again begins to diminish, and that appearance of the iris to subside; while soon it will be seen to become smaller than before, and we may sometimes observe a dark ring around its circumference, evidently not produced by the everted margin of the iris, but depending upon the collapsed state of the capsule, permitting the rays of light to pass between it and the ciliary processes, and bringing to view the dark choroid coat through the transparent vitreous humour. The iris now may sometimes appear to have a vacillating motion, dependent upon the loss of support which the containing membrane of the eyeball experiences upon the removal of the lens from its natural situation; for at this period the lens is almost entirely absorbed, so that it leaves but a thin scale, or perhaps but its original centre nucleus: even this, however, in time is removed, and the anterior lamina of the capsule retires upon the posterior, until approximated they seem to form but one membrane, perfectly opaque, white, and elastic: the Cataracta Arida Siliquosa of authors.

Nobody, having just ideas of the anatomy, can contemplate the progress of this disease without at once recognising cause and effect; and if, in the congenital variety, any doubt should still exist, we have but to reflect upon the cause and termination of that cataract, sometimes produced by a blow upon the eyeball, or a rupture of the capsule permitting the escape of the lens, to be convinced of the fact. Indeed, if we examine the eye after death, and observe with what facility the lens starts from its capsule, we may perhaps be able duly to appreciate the tensity of those vessels that form its connexion with the capsule; and then, if we see how easily the lens escapes, we must at once perceive how slight must be that concussion which will break through these vessels, and how they may be broken without the capsule being opened. Should the lens then be separated from the living body, it is dead; becomes a source of irritation, though still enveloped in its capsule, and in process of time will be absorbed. I think I may say, then, that this variety of cataract always arises from a blow upon the eyeball, a sudden concussion, or unusual pressure, that acts upon the part so as to rupture the vessels that support the life of the lens; for, when this occurs, the lens gradually becomes opaque, and, as a foreign body, produces a degree of irritation upon the inner surface of the capsule, and lymph is deposited; while an increased secretion of the liquor Morgagni also takes place. The vessels that deposit the lymph upon the capsule may sometimes be seen by the naked eye: at first it is laid down but partially, and only at certain points, which causes a spotted appearance. The lens now begins to dissolve in the liquor Morgagni, and is slowly absorbed with that fluid. Soon after this the capsule becomes wholly opaque, but still it is evidently swelled out by an increased secretion of the liquor Morgagni: this projection, however, decreas-

es as that fluid, and the lens dissolved in it, is absorbed; and, when it is entirely removed, and the laminæ of the capsule have collapsed upon each other, (in the infant eye,) we may perceive the black rim around its circumference. This, I believe, is caused by the capsule not increasing in size (now the lens is removed) in proportion with the rest of the eye, so that it remains stationary, while the vitreous humor and ciliary processes are fully developed.

From observation, I am led to believe that this is the most frequent cause of congenital cataract; the Cataracta Centralis, as recorded by authors, may sometimes occur; but this will depend upon partial inflammation of the capsule. I have observed the common variety of congenital cataract to follow tedious labours, in which the frontal bones, at this period of life separated into two portions, may experience a compression; they may even collapse over each other; when the pressure must affect the globe, and may rupture the vessels of the lens.

On referring to M. Demour's work upon the Diseases of the Eye, I am happy to find that I am supported by so excellent an authority; for he precisely states, that "Si on veut reflechir attentivement a la structure du cristallin, a son esolement dans sa capsule, a la petite quantité de lymph, ou humeur de Morgagni, qui l'environne et a la nature de son envellope, ou expliquera aisement les phenomenes qui presente cette maladie pendent et après sa formation, tout medecin que reflechira attentivement a la structure du globe de l'œil, trouvera quelque soit alors le système adopté pour expliquer la nutrition du cristallin, qui *l'interruption de cette nutrition est la cause immediate de la cataracte.*

"Les causes externes de la cataracte sont connues: les blessures qui entament la capsule de cristallin; les *percussions qui detruisent la circulation dans ces parties si delicates; en un mot, tout ce qui put changer les rapport du cristallin dans le globe detruisent sa transparence.*"

That this proceeding is the common process of congenital cataract, is also strongly corroborated by the opinions and observations of Saunders and Gibson; while their discrepancy of opinion may now be easily explained, by considering that they must have seen their patients at various periods, when different and distinct stages were present.

The cataract produced by a wound of the eye and a rupture of the capsule, with an escape of the lens, differs but little from that just noticed: it undergoes similar stages; the lens first becomes opaque, which commences immediately after it is separated from the capsule, and in a few days it is quite white; the capsule also is inflamed, and lymph is deposited on it; it becomes white, and in the end assumes the character of the coriaceous cataract.

By way of recapitulation, then, I think I shall be supported in considering that cataract may be caused—

1st. By acute inflammation of the lens and capsule.

2dly. By chronic inflammation, for the most part beginning in the capsule of the lens.

3dly. A morbid action commencing in the lens itself.

4thly. By a rupture of the vessels which connect the lens with the capsule, and endow it with the principle of life.

5thly. By a rupture of the capsule and escape of the lens.

These varieties of disease will obviously require different operations for their cure. Cataract caused by acute inflammation of the lens and capsule should always be cut up with the needle, and left to the process of absorption for its removal. That produced by chronic inflammation should experience a similar treatment. The third variety, in its very commencement, should undergo the operation of reclination or depression; but in its latter stage, when it has become hard, even should it be enveloped in a tough capsule, ought to be extracted; for the hard lens almost invariably causes so much irritation, that glaucoma is a consequence of its presence in the eyeball after it is depressed. The fourth or fifth varieties, by their progress, point out that we have but to separate the diseased portions from the living system by means of the needle, when the absorbents will entirely remove them from the organ of vision, and hereby cure the disease.

From the Nouvelle Bibliotheque Medicale.

CASE OF PLEURITIS, FOLLOWED BY SUPPURATION; *and Evacuation of the Pus through the Lungs, and Intercostal Muscles.* By M. Roques.

A man aged 30 years, of a lymphatic temperament, was attacked in consequence of exposure to a stream of cold air, with acute pain in the right breast—cough without expectoration, &c. He was twice bled from the arm the following day, and fifteen leeches were applied to the breast, which were productive of considerable relief. The third day, the pain had almost entirely disappeared, but returned again toward evening in the posterior part of the same side. Fifteen leeches were applied to the seat of the pain. The fourth day the cough had abated, but was still unaccompanied with expectoration, pulse slightly frequent, decubitus upon the left side, less painful than before; the integuments over the inflamed part were tumefied, and acutely sensible to the touch; the lancinating pain in the breast became more severe towards evening. On the fifth, he was attacked with accute pain in the right knee, with inability to flex the member. A blister was applied, which discharged abundantly; a tumour was observed in the part of the chest above indicated. For several days, there were alternations of pain between the tumour of the back and knee; according to the report of a health officer, he was almost entirely free from fever. The preceding in-

perfect detail of symptoms was communicated to M. Roques, when he visited the patient on the sixteenth day of his illness.

In the evening of that day, he had fallen down in a state of suffocation, and M. Roques was accordingly sent for in great haste; when he arrived, he found his patient expectorating purulent matter in considerable quantity; he was in a sitting posture, leaning forward, in which situation, respiration could be performed without pain; in every other it suddenly became extremely difficult. No distinct diagnostic could be drawn from the sound produced by percussion, by reason of the thickness and flabbiness of the adispose tissue; it was rather more obscure, laterally on the right side, than on the corresponding part of the left; pulse seventy-five, intermittent, countenance greatly dejected, tongue covered with a whitish mucus in the centre. The tumour on the posterior part of the chest was of an oval form, and situated over the most projecting part of the ribs; its vertical diameter was about six inches, and half that extent transversely; the skin preserved its natural colour; a deep seated fluctuation was perceptible in the centre of the tumour; the ear applied immediately above the tumour, perceived an unusual cavernous sound, which the patient stated he had heard for the last three days. On pressing the centre of the tumour, a noise was produced like that occasioned by the passage of fluid into the chest, and M. Roques no longer doubted, the existence of a communication between the abscess and bronchiæ, the patient having expectorated three or four spoonsful of pus, the source of which appeared to be seated beneath the hand applied over the tumour. An opening was made into the tumour, followed by a greater hæmorrhage than usual on such occasions, and a discharge in considerable quantity of well concocted pus, exactly resembling that expectorated; its evacuation was promoted by moderate pressure; after which a tent was introduced into the opening, and a compress and bandages applied. The intermissions in the pulse, were observed to be of less duration than they previously were.

The knee was much enlarged, unattended with change of colour; and not unlike the tumour known by the name of white swelling; it could be handled without occasioning any great degree of pain, but this instantly became very acute, upon any attempt at flexion. 17th day. The patient passed a sleepless night, sitting in his bed, and much incommoded by the cough; he had expectorated about an ounce of pus, less yellow than before; a considerable quantity similar to that of the preceding day, was discharged from the tumour. The centre of the latter, appeared to be elevated when the patient made a deep inspiration. A noise resembling that occasioned by air passing through a liquid, was discovered by the stethoscope applied over this part; but the most remarkable phenomenon, was the intensity of the sound, when the patient made a deep inspiration, not unlike that made by children with a pasteboard tube, in form of a trumpet. The respiratory murmur was heard less distinctly on the affected side, than on the other.

The knee continued acutely painful, with a sensation of heat, imperceptible to the hand. Six leeches were directed to be applied, followed by an emollient cataplasm; he had been placed the preceding day upon a rigid diet, decoction of barley with oxymel, and the same treatment was still enjoined, with the avoidance of every thing stimulating.

The night of the 18th was calm, and the patient enjoyed some hours of sleep; the cough and expectoration were diminished; there was some tendency to syncope; about two spoonsful of pus were discharged by the tumour, which was much contracted; a deep inspiration elevated its parietes, and several globules of air escaped with the pus. The exertions in coughing excited a transitory pain, beneath the right breast, the part first affected with inflammation. A more nutritious diet was directed, and a spoonful of wine three times a day.

Nothing very remarkable occurred up to the 24th. The tendency to syncope left him; the discharge of pus from the wound having ceased, and the expectoration become more copious, with increased frequency of pulse, and other symptoms of febrile irritation, an incision was made into the centre of the tumour, above the former one, and carried through the first layer of muscles, it did not penetrate however, into the cavity of the abscess. The knee continued painful as before, and but for the diffusion, and uncircumscribed form of the swelling, might have been supposed a case of dropsy of the joint. A cavernous sound was still heard through the stethoscope, applied over the situation of the dorsal tumour. An infusion of gentian and some other tonic medicines were directed.

The symptoms continued with little alteration to the thirty second day, from which period the amendment was progressive. The quantity of pus expectorated diminished daily, and was thrown up more easily, the sonorousness of the chest was observed equally on both sides, and the knee became less painful, and more susceptible of motion, though it still preserved the appearance of a white swelling. Irritated some days later, in consequence of imprudent exercise, the pain and swelling reappeared, but gradually yielded to appropriate applications, and the patient ultimately recovered, without any farther accident.

From the London Medical and Physical Journal.

CASES OF COMPOUND FRACTURE OF THE SKULL, WITH DEPRESSION. With Observations by B. Travers, F.R.S.

Case 1.—October 20th, 1827, William Clark, æt. thirteen, was brought into St. Bartholomew's Hospital, at eight P. M. in a state of stupor from a severe blow with a staff flung from a height, which had produced a radiated

fracture of the left parietal bone, with depression. His pulse was small and irregular; skin cold; breathing hurried; frequent contractions of the muscles of the face and right arm; pupils moderately dilated, contracting feebly to the light; and much writhing of the body while the head was examined. The scalp wounds were dilated and joined, and four portions of depressed bone removed. Another large portion not detached was raised to the surrounding level, and a space equal to about two inches of the dura mater lay exposed.

He lost a few ounces of blood from the arm on the same night and succeeding day, and his bowels were kept gently open by castor-oil. On the 22d, (third day,) his pulse was 140, and he was disposed to coma, with oppression of the chest, and complained of pain in the head. These symptoms yielded to a dozen leeches applied to his temples, and motions obtained by castor-oil and a clyster. On the 25th, (sixth day,) he was convalescent.

After some days he had a smart attack of diffused inflammation of the connecting cellular tissue of the scalp and occipito-frontalis muscle, with much soreness and tumefaction on the opposite side of the head, and accompanied with fever. Twenty leeches were applied, and afterwards a cold lotion. He took a solution of salts with liq. antimon. tartar., and the part recovered without suppuration; since which his progress to health has been uninterrupted.

Case 2.—November 10th, 1827, John Williams, aged thirteen, was admitted into St. Bartholomew's Hospital, about noon, with a severe injury of the head from the falling of a wall after a fire. He was perfectly rational, and had no symptoms of mischief to the brain, but a feeble pulse of sixty, and a cold surface.

A lacerated wound of the scalp near the posterior extremity of the sagittal suture on the right side of the cranium was dilated, and discovered a fracture extending from the suture, near its junction with lambdoidal, across the parietal bone. The sagittal suture was loosened, and, at some distance from the former transverse section, another, commencing at the suture, took a diagonal direction. The triangular portion of bone included was driven in, and so wedged as to require the removal of a small portion of contiguous bone for the application of the elevator. A free venous hemorrhage occurred, which was checked by applying a dossil of lint. He lost rapidly near a pint of blood, and it was apprehended that the sinus was wounded. In the evening he was found quiet. His pulse had risen, he was sensible, and not complaining of pain, but disposed to sleep. In the morning he was heavy to sleep, having passed the night in that state without restlessness. He was perfectly sensible when spoken to, but unwilling to be roused; his pulse feeble, and intermitting occasionally. He had passed urine, and rejected a dose of castor-oil.

At two o'clock, the same state, drowsy, but rational; some blood had issued from the wound. The bowels had not acted, and four grains of calomel and a common clyster were directed. These procured copious relief from the bowels.

Between five and six he expired, with little, if any, change of symptoms.

On examination, the exposed dura mater was found discoloured, and also a small wound in that membrane connected with a vein of the pia mater near its entrance into the longitudinal sinus, from which the hemorrhage had proceeded. The veins of the corresponding space of the pia mater were loaded, so as to give it a thickened appearance. The cortical substance was marked with specks of extravasation opposite the injury. Otherwise the brain was natural, firm, and healthy.

Case 3.—November 10th, 1827, Stephen Briffet, æt. twelve, was brought in along with the former, having received a similar injury at the same time and place. He had been stunned, but was now recovered. The skin, however, was chilled, pulse small, and breathing slow. A flap wound of the scalp over the left parietal bone, near its upper and posterior angle, exposed a fracture; and, after a farther dilatation of the exposed integument, a central portion of the bone, of the diameter of an inch, was observed to be insulated, and driven down upon the brain. From this a fissure extended towards the sagittal suture. The depressed piece was raised by forceps, without the aid of the trephine or saw. In addition to bruises, there was also a lacerated wound of the eyelids of the left eye at the external angle of the orbit, which had detached them and penetrated the conjunctiva, so as to lay open the orbit on this side of the bottom. In the evening, the boy was as well as could be desired, faculties perfect, and skin warm, with a moderate and soft pulse.

On the third day, having passed a restless night, his appearance and manner became altered. He was very restless, tossing about constantly, and complained of a pain in his head. The pupils of the eyes were dilated. The bowels having been opened, and the stomach rejecting medicine, forty drops of laudanum were injected in a clyster, and retained. This procured him five hours of sound sleep; but he continued to get worse, and died on the night of the 16th.

Examination.—A boundary of adhesive matter, corresponding to the fractured and denuded bone, was seen upon the dura mater, after raising the vault of the cranium. This membrane was sound. On raising it, the general appearance of this hemisphere was paler than that of the opposite side; the vessels of the pia mater being in a state of emptiness. The cerebral substance, on the contrary, exhibited very numerous red specks on section, and the cineritious substance opposite the injury was preternaturally loaded with blood. The chambers and basis of the brain were natural, but its substance soft.

Observations.—In all these cases the symptoms were those of commotion. In the first case there was evidence of pressure also, and of its relief by the operation, in the state of the senses, the breathing, the pulse, the pupils,

&c. as compared before and after the operation. But the recurrence of similar symptoms on the third day, as well as the character of those first displayed, does not admit of this being entirely referred to the displacement and pressure of the fractured bone: it was like the greater number of these incidents, a mixed case.

Whilst Mr. Travers was hesitating to operate upon Williams, the second case, it was observed that a circular piece of bone was apparently missing; but, upon gently dropping the probe through the aperture, it struck upon the surface of the displaced bone, and the apprehension of consequences from its complete inpaction beneath the cranium determined him to proceed. It was by this piece that the dura mater had been torn, and, as the event proved, there would have been less risk in allowing it to remain; for it is probable that the boy's death was accelerated, under the existing circumstances, by the free hemorrhage from the pia matral vein.

Both these lads, Williams and Briffet, had been stunned, and laboured under the effects of severe physical shock or concussion. They were passively intelligent, pale, cold, with a small and feeble circulation. There was nothing in the symptoms that pointed to the head as the seat of the injury. Their state was undistinguishable from that which we see every day produced by injuries of parts remote from the brain. Nevertheless they were in process of gradual recovery from the effects of a direct concussion of the brain, which an hour before had deprived them of sense and motion. The boy Clark (No. 1,) had been stunned to insensibility, and remained stupid, tossing his arms about, and moaning when disturbed for examination. He also was pale and cold; his pulse feeble and intermittent; he had rejected the contents of his stomach; his breathing was oppressed, not stertorous; pupils dilated, but not motionless. The relief following the operation in his case was marked and immediate.

The mode of injury by which a concussion is inflicted must influence not only the degree, but the character of the mischief. The singleness and purity of the concussion, or its combination with compression, creates a marked distinction. The nature of a concussion, as of a fracture, is probably determined by the more diffused or circumscribed operation of the force by which it has been inflicted. Clark (No. 1,) was struck with a rail, or piece of wood, flung from a loft. Williams and Briffet were buried under the ruins of a falling wall.

Modern experiments have shown the difference in the effects (upon the organs which maintain life) of an injury which wounds or divides, and one which crushes or breaks down the structure of the brain or spinal marrow; between the wound or removal of a part, and the disorganization of the mass. It would appear that the effects of a severe concussion are entailed upon the injury from the moment of its infliction, although the immediate symptoms of disturbance sometimes recede, and an interval of comparative tranquillity succeeds to it. For where no lesion of the brain or its membranes, nor any inflammatory action, has existed, how otherwise can we explain the recurrence of symptoms similar in character to those which mark the first stage,—that is, of purely nervous symptoms, after a period of three or more days, and their speedily fatal termination,—but by supposing a deeper and more universal injury to the nervous mass than was at first apprehended. The extraordinary frequency and conspicuousness of the red points, upon section of the medullary substance of the brain, Mr. Travers noticed repeatedly, contrasted with the empty state of the vessels upon the membranes, in cases in which the symptoms of shock had prevailed, both consequent upon and unconnected with injury of the head. A congested state of the capillary arteries to so considerable a degree as to render many conspicuous, which in a healthy brain are invisible, is a phenomenon opposed to that actually presented in fatal determinations to the head, in which the veins of the membrane are loaded, that in this are pale and collapsed. This congestion of the cerebral circulation in the arterial capillaries, or at least colourless vessels, must be gradual, and unlike that which happens in the general circulation at the moment of death. It is probably an effect of the impaired tone of the nervous structure, but it must exercise in turn a most extended influence on the actions of that system, and the functions of life. This, and the tendency to serous effusion, commonly regarded as the signs of inflammation, are the most notable appearances met with after death from concussion. Dr. Wilson Philip, in his chapter on serous apoplexy, (inquiry into the laws of the vital functions, p. 311,) has some interesting observations tending to show the analogy in the symptoms of concussion and of serous apoplexy, as contradistinguished to those, likewise analogous, of sanguineous apoplexy and compression. The depleting treatment cannot be borne in the former, which the latter calls for. Inflammation is equally remote from both.

Mr. Travers makes this observation as a caution to his juniors in the profession, against the premature employment of the lancet in concussion,—that is, before the circulation has completely recovered itself, or rather before the commencement of an action decidedly inflammatory. It is curious to observe how blindly the notion has been acted upon, which has been so generally and energetically impressed. The quantity of blood which a man can afford to part with in a given number of hours, is commonly exemplified by reference to cases of inflammation of the brain. Now, concussion and inflammation have unfortunately been identified, and lives have as undoubtedly been lost in the former, as saved in the latter, by the lancet. The reporters of the cases speak of a cold and pallid surface, and a sunken pulse, and its further sinking under the lancet, and their fear to proceed, in the same paragraph. Day after day, however, it has been resumed, as if in obedience to an

abstract principle, and it is stated as matter of regret that only four or six ounces, instead of eight or twelve, as ordered, could be obtained at the last bleeding.

In most cases of concussion, the following treatment will, Mr. Travers thinks, be found most suitable. To relieve congestion, and no more, leech bleedings, and lax, not fretted, bowels: he prefers calomel or castor-oil, as the case requires, and the domestic clyster;—cold lotion to the shaved scalp, blisters to the occiput or nape of the neck; stimulant enemata, as of turpentine and assafœtida, if there be stupor and drowsiness; and if vigilance, tremours, and delirium, with a stomach too irritable to retain medicine, opiate clysters. The effect of both these remedies is excellent in the states described.

Cases of mixed symptoms are more frequent than such as admit of no mistake. In their descriptions, authors have displayed a regard for more exact and positive distinctions than nature commonly exemplifies. To give a system-like simplicity and an oracular tone to their directions, they have introduced diagnostics which are seldom seen and still seldomer to be relied on. Take concussion and compression for example. The most frequent case is that in which the symptoms of commotion and pressure are so far blended as to make it doubtful whether, if not depending upon, they are not at least maintained by the displaced portion of the bone. In a consultation, one party decides that it would be most prudent to elevate the depressed piece immediately, because, when inflammation is set up, and the symptoms become urgent, he considers that the operation aggravates the injury, and quickens the fatal event. The other questions this fact, and prefers to take the chance of the symptoms subsiding by abstinence, depletion, &c. Now, which of these parties is right? Thus far the question was tried under the observation of Mr. Travers, many years ago, at Guy's Hospital. Two boys were admitted, patients of the same surgeon, with compound fracture of the skull and depression. Neither had any symptoms of compressed brain, and consequently no operation was practised. After some days one of them was attacked with symptoms of inflammation, and the depressed bone was elevated. The symptoms were not in any degree mitigated, and the boy died. In the other the operation, which had been hitherto postponed, was now performed, and he did well. He might, however, have done as well had he been let alone, no symptoms having occurred; and the narrative therefore only shows, what we were predisposed to believe, that, where inflammation of the membrane follows upon depression, the operation is of no avail. Inflammation of the dura mater is a consequence of depression; but, if the parts be undisturbed, it may be limited to the spot, and the membrane be preserved from suppurating and spoiling. Mr. Travers would consider the advantage of being before hand with the inflammation,—the many facts to prove that depression is by no means an irrecoverable condition,—the probability that if it be so inconsiderable as not to produce symptoms in the commencement, it may be prevented from afterwards doing so,—as full and sufficient grounds for declining the operation in all cases in which no real symptoms of compression presented themselves. On the other hand, the symptoms of compression being present, the operation, in his judgment, should be resorted to, whether the scalp were wounded or not. Thus Mr. Travers would make the presence of symptoms of compression, *cæteris paribus*, the criterion by which to determine the fitness of the operation; and the more marked the symptoms, the more indispensable the operation. And when, as in the case supposed, the symptoms are of a mixed nature, (and they are never absolutely separable,) we must be guided according to the predominance of either, being in mind that, in proportion as pure concussion prevails, any operation is objectionable.

From the Edinburgh Medical and Surgical Journal.

1. *Exposé des Divers Procédés, &c.—Account of the different methods employed to the present time to cure Stone, without having recourse to the operation of Lithotomy.* By J. Leroy, (D'Etiolle,) M. D. Paris 1825.
2. *Remarques sur l'Uretre, &c.—Remarks on the Urethra, Male and Female.* By M. Amussat. *Archives Generales*, Tome iv. January, 1824.
3. *De la Lithotritie, &c.—On Lithotrity, or Destruction of Stone within the Urinary Bladder.* By Dr. Civiale. With five plates. Paris, 1827, 8vo. pp. 254.
4. *Rapport, &c.—Report presented to the Royal Academy of Sciences, by* MM. Chaussier and Percy, *on the method proposed by Dr. Civiale for destroying Stone, without having recourse to Lithotomy.* Paris, 1824.
5. *Memoire sur la Lithotritie, &c.—Memoir on Lithotrity.* By Alphonso Tavernier, D. M. P. (*Journal des Progres des Sciences et Institutions Medicales en Europe, en Amerique, &c.* Vol. II. Paris, 1827.)

It is by no means wonderful that at all periods of the history of the healing art, it has been a favourite problem to discover some means of removing urinary concretions, less formidable than that of lithotomy. The pain, the danger, and the uncertain result of all incisions made into the urinary bladder, are sufficient to invest every form of the operation with more or less terror, and make it be viewed at all times by the patient, if not by the operator, with that feeling of uncertainty, from which none but a very ignorant or a very indifferent person is wholly exempt. Though the surgeon may look to the operation of lithotomy, with that alacrity and pride which spring from a conscious sense of the triumph of his art, to the patient it appears as the only alternative of a life of pain and misery, and the only probable mode of removing a disease which in some instances is worse than many deaths.

The first proposal by which the evils, real or supposed, of the surgical operation were attempted to be avoided was that of medicines, which were confidently called lithontriptic. This idea, however, which originated in ignorance, not only of chemical, but of physiological laws, was, after many futile and unavailing trials, abandoned as erroneous. It is needless now to revive the history of the argument, the ridicule, the invective, and the irony, with which the reputation and the memory of the unhappy Mrs. Stephens were alternately assailed. These were the days neither of Black nor Lavoisier; and if the calcined egg-shells and Alicant soap did no other good, they led Whytt and others to the notion of lime-water, and the whole train of alkaline remedies. The system has been simplified, and the theory has been rendered intelligible; but at the present day the efficacy of the alkaline remedies is maintained by Sir Gilbert Blane, Mr. Brande, the late Dr. Marcet, and Dr. Prout.

As the great objection to this hypothesis consisted in the fact, that no lithontriptic of sufficient strength to operate on a stone in the bladder, could be conveyed into the stomach without more or less injury to that organ, and that in such a form as not to affect the stomach, it must be inadequate to operate on the urinary concretion, and was liable to decomposition. To obviate this objection, it was proposed to convey the lithontriptic medicines directly into the bladder. The practicability of this method, which was understood to have been originally suggested by Hales, was maintained in 1742, by Makousky of Konigsberg, and demonstrated in 1746 by Browne Langrish on brute animals,* and about ten years after by William Butter on the human subject.† The latter gentleman, then a clerk in the Royal Infirmary of this city, injected lithontriptic solutions into the bladders of two patients, labouring under symptoms of stone in that establishment, in the presence of Dr. Whytt, and published a description of the apparatus which he conceived most suitable for the purpose. No further account, however, was given of the results of these injections; and the practice appears to have been left to languish in neglect, till revived under happier auspices by Fourcroy and Vauquelin in 1791. These distinguished chemists, detailed in the second volume of the Memoirs of the Medical Society of Emulation, the particulars of several cases in which they tried various injections. From these trials, and from the recent testimony of Marcet, who had also put it in practice, it must be admitted that the method by injection, possesses the merit of being more consistent with the laws of chemical action than the former. It has not, however, been free from considerable difficulties, which have tended to keep it rather in the place of a scientific curiosity, than in that of a practical and useful measure susceptible of general application. Even the continued injections by the means of the double tube imagined by Hales,* and afterwards realized by Gruithuisen,† though recently applied by the ingenuity of Magendie, have not afforded results perfectly successful.‡

In short, the method is beset with difficulties so considerable, as to render its general adoption as a surgical remedy, exceedingly improbable. The necessity of obtaining accurate information on the nature of the concretion, and of accommodating the solvent to the substance to be dissolved, is indispensable to its success, and even to its innocence; and this is by no means easy even to chemists, and very difficult to ordinary practitioners. It is further to be remarked, that no fact is better ascertained than that the saline, or earthy matter deposited from the urine, varies at different periods in the same individual; and that in the same concretion three or four different kinds of substance may be found. Lastly, even supposing the case to be simplified by the removal of these difficulties, the operation of injection requires to be so frequently repeated, and so long continued, before any material impression is made on the concretion, that few patients can be found who have sufficient firmness and patience to persevere with a process which, conducted with the utmost caution, is attended with more or less irritation of the urinary passages.

An application of chemical agency, still more elegant and ingenious, originated with M. Bouvier Desmortiers, who first conceived the possibility of dissolving urinary concretions by the decomposing influence of galvanism. This happy idea was adopted by Gruithuisen, who in 1813 undertook to prove its practicability in regard to concretions out of the bladder. The experiments which he made led him to infer that almost no concretion resists the action of a pile of 300 plates, which have the effect of forming deep holes in its substance; and he advises in the case of a hard calculus to employ 600 plates, when it would be dissolved with remarkable rapidity.

This method of destruction was in 1823 more completely investigated by MM. Prevost and Dumas. They first subjected a fusible calculus out of the body to the operation of a pile of 120 plates, which was charged afresh every hour; and they found that a concretion, which at the commencement of the experiment weighed ninety-two grains, was reduced in twelve hours to eighty grains. In sixteen hours more it was so friable that on the slight-

* Physical Experiments upon Brutes, in order to discover a safe and easy method of dissolving the stone in the bladder by injections, &c. Read before the Royal Society. By Browne Langrish, of the College of Physicians, and F. R. S. London, 1746.

† A method of cure for the stone chiefly by injections With descriptions and delineations of instruments contrived for these purposes. By William Butter, M. C. Edinburgh, 1754.

* Hemastatics, p. 175. † Saltzburg, Zeitung, 1813.

‡ Leroy, Exposé, &c. p. 96.

est pressure it fell into crystalline grains, the largest of which did not equal the size of a lentile. In a second experiment, performed on the fragment of a concretion introduced into the bladder of a living dog, in the course of six hours they rendered very friable, and deprived it of much of its weight, without apparently causing the animal much pain.

By M. Leroy the apparatus employed by MM. Prevost and Dumas is believed to labour under some disadvantages, especially in the conducting wires being retained irregularly in contact with the concretion. This inconvenience he proposes to obviate by first grasping the stone by an instrument analogous to what he terms the *lithoprion*, and having entirely or partially perforated it thus secured by connecting one wire with its surface, and the other with the hole in the centre; the stone, assailed in this manner at two points, must speedily give way; while the bladder cannot be injured by the galvanic current, which is totally expended on the concretion. The suggestion is certainly highly ingenious; and as by its scientific precision it obviates the principal objection to which the galvanic method of decomposition is liable, it has a just title to more extensive trial than it has yet undergone.

A third mode of obviating the alleged evils of cutting into the bladder to extract a stone, is that of mechanical destruction or division into fragments so minute that they may be expelled through the urethra. At first sight this proposal seems the most impracticable of any, and calculated to be little more than the pastime of ingenious but chimerical speculatists. The narrowness and unyielding nature of the male urethra, its length, its curvature, and the delicacy of the textures of which it consists, all present obstacles at first sight utterly insuperable,—*first*, to the division of such a substance within the bladder as a urinary concretion; and, *secondly*, to the extraction of the fragments by the urethra without serious, if not irreparable injury to that canal.

Such are the thoughts of preconception unregulated by the knowledge of actual facts, and the results of accurate experiments. Difficult and chimerical as the proposal may appear, it has actually been realized; and if there be truth in human testimony, it cannot be denied that stones have been so much divided and broken by mechanical contrivance within the bladder, as to be extracted through the urethra not only without injury, but with comparative ease.

The merits of originality in contriving this method of removing urinary concretions from the human bladder is claimed by different individuals. It would be foreign to our purpose to enter into the question of the rights of either of the claimants; nor do we propose to espouse the cause of any one of them. The general merits of the contrivance, admitting its utility and practicability to be equally great as they represent it, are very much divided. It is enough to say, that all seem to be agreed that to M. Amussat belongs the chief merit of urging and demonstrating, at least at present, from accurate knowledge of the structure and configuration of the urethra, the practicability of using the necessary instruments. M. Leroy again appears to have been best acquainted with the history of the operation, to have known most accurately what had been imagined and executed in all that relates to the extraction of vesical calculi, without recurring to cystotomy, and to have proceeded on the most rational plan for rendering the method one of experience and practicability. Lastly, the name of M. Civiale is still most closely connected with the actual performance of the operation, several, we believe now many, examples of which he has successfully accomplished on the living subject.

After these preliminary remarks, we proceed to take a short view of the steps by which this operation of destroying calculi within the bladder has been gradually brought to its present state; and to consider briefly the different methods by which the object is believed to be most readily and expeditiously attained.

The removal of concretions from the male bladder without recurring to incisions implies three conditions. The first is, that the urethra be susceptible of a certain degree of dilatation. The second, that the stone, or fragments of stone, be very small; in other words, that it be reduced to minute portions. And, with a view to the accomplishment of this effect, the third condition is, that the direction of the urethra admit of the introduction of instruments adequate to divide the concretion if necessary, and to facilitate the expulsion of its fragments through the canal.

It is unnecessary to advert to the spontaneous escape of concretions from the bladder through the female urethra. That fact is so well established by cases recorded by various authors, more especially by Bartholin, Borelli, Kerkringius, Grunewald, Morand, and those given by Drs. Wallis, Gardner, Beard, Molyneux, and Leprotti, in the Philosophical Transactions, that it is equally impossible to doubt it, and superfluous to undertake its demonstration. It is well known that upon the knowledge of this fact depends the method originally practised by Stromani and Franco,* revived by Tolet,† and Bromfield,‡ and repeatedly performed of late years by Sir Astley Cooper§ and others,‖ of extracting calculi from the female bladder by dilating the short and distensible urethra by the introduction of spongetents and similar mechanical contrivances.

Very different is the case with regard to the urethra of the male; and the spontaneous

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* Traité tres ample des Hermes, p. 143.

† Traité de la Lithotomie.

‡ Surgical Observations and Cases.

§ Medico-Chirurgical Transactions, London, Vol. viii. p. 433.

‖ Drs. Hamilton and Ramsay in Medico-Chirurgical Transactions, Edinburgh, Vol. ii. and Dr. Mackintosh in Med. and Surgical Journal, Vol. xxiv.

escape of concretions by this canal is of infinitely less frequent occurrence. Instances, however, even of this event have occasionally happened; and all who are acquainted with the history of vesical surgery, or are conversant with its practice, are well aware of cases of this description. Almost every collection, public and private, contains many examples of minute calculi, more or less numerous, which have been discharged under favourable circumstances by the urethra; and most practical surgeons have met with cases in which patients continued during many years to expel calculi through that canal from the bladder.

These facts, together with the operation of the steel sound, are sufficient to show that the male urethra is dilatable to a certain degree. M. Leroy states five lines to be a diameter attained with difficulty, and thinks that he is justified in inferring that many men can with difficulty support sounds of this size. This statement may be correct in reference to the vesical extremity and the prostatic portion of the canal; but in other parts it is certainly more dilatable, at least in the average of well-sized healthy adults. The steel sound marked No. 14, we find to be exactly five lines in diameter, and not only this but No. 15 we have repeatedly introduced in the adult male, and others have done the same. Upon this point we expected to find some exact information in the essay of M. Amussat; but that gentleman has been more solicitous to establish the flexible nature of the male urethra than to ascertain to what extent it was dilatable.

But previous even to the lights afforded by correct anatomical science, the dilatability of the male urethra appears to have been believed, if not demonstrated. We have the evidence of Prosper Alpinus to show, that among the Egyptians in the sixteenth century,* it was an ordinary practice to distend the urethra with air, in order to extract urinary concretions. The same writer states that he witnessed an Arabian physician extract in this manner calculi as large as olives, or even small nuts.† At a much later period in Europe, it appears from the writings of Meckren and Helwig, that the method of mechanical dilatation was successfully practised for the same purpose.

It is nevertheless well established, that beyond a certain point the male urethra cannot be dilated; and hence, in several of the instances in which calculi are recorded to have been detruded from the bladder into the urethra, they have stuck fast in the canal until removed by art. This accident appears to have been noticed at an early period; for we find in the writings of Albucasis, Hildanus, Ambrose Paré, and others of the older surgeons, frequent mention of cases in which it was requisite to extract the stone from the urethra, and minute descriptions of instruments and mechanical contrivances for effecting this object successfully.

"But if a stone stop," says Paré, "in the end of the *glans*, it must be plucked out with some crooked instrument; to which, if it will not yield, a gimblet, with a pipe or case thereunto, shall be put into the passage of the yard, and so it shall be gotten out, or else broken to pieces by the turning or twining about of the gimblet, which I remember divers times to have attempted and done; for such gimblets are made with sharp screws, like ordinary gimblets."*

That the operation of Paré was afterwards practised by Daniel Fischer, of Kesmark, we learn from his son Charles Daniel, who has left an account of the method in which his father operated. This surgeon, whose aid was requested to relieve a Hungarian counsellor of noble rank from the sufferings occasioned by a concretion impacted in the urethra, having caused a steel canula containing a piercer to be constructed, not to break but to perforate the calculus, introduced this instrument, moistened with almond oil, to the concretion, which he secured by holding the urethra with his left hand. When he satisfied himself that the canula was applied to the surface of the stone, he introduced his piercer and proceeded to work it until the concretion was thoroughly perforated. This being accomplished, the piercer was withdrawn, and a pair of long-beaked small forceps was introduced so accurately as to enter the hole made in the calculus. The handles of this instrument being then separated, the stone was accurately broken in four pieces, which were voided when the patient made water with little pain; *exiguo cum dolore;* and the counsellor was henceforward completely delivered from this evil without any injury of the urethra, *absque omni læsione urethræ.*†

We give this case as a good example of ingenuity in surgical operation, and to show that the idea of lithotrity, at least in the urethra, is by no means new; and we believe that few will dispute that the operation of Fischer is a valuable improvement of the method of Ambrose Paré.

This operation nevertheless, does not appear to have been since repeated; and surgeons have been contented to employ forceps, pliers, and hooks, for the purpose of extracting stones from the urethra, or to facilitate the operation of these means by the use of bougies and mechanical dilatation. The former was the method conceived by Hales, and practised by

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* Alpinus tells Guilandinus that he sailed for Cairo in 1580, and left Egypt in 1584. De Medecina Ægytiorum, libri iv. lib. i. x.

† Ibid. lib. iii. chap. 14.

* The works of that famous chirurgion Ambrose Parey, London, 1634, Lib, 17, chapter xxxix.

† Dissertatio Medico-Chirurg. de Calculo Vesicæ Urinariæ in Urethram impulso et singulari Encheiresi, absque sectione exempto. Quam palam tuebatur Carolus Daniel Fischer, Kesmarkkia-Hungarus, 1744. Haller, Disp. Chir. Tom. iv.

Ranby, Lamotte, Hunter, Desault, and other surgeons. By means of the latter, Boyer succeeded in extracting four calculi of good size from the urethra of a man of sixty years.*

Of the same practice a variety still more advanced is that of extracting small calculi from the bladder through the entire length of the urethra. This method, the merit of which has been generally given to Sanctorius, has not, however, been much followed. Sir Astley Cooper alone several years ago removed in this manner from the bladder of one patient not fewer than eighty-four concretions of the size of garden peas.† The instrument used by this dexterous surgeon was a pair of two bladed bullet-forceps, made to open when in the bladder, by means of a stilette, so as to grasp and confine the stone during extraction.

When the disease consists of numerous small stones, it is obvious that the chance of their expulsion from time to time, or even their extraction, is much increased. The expulsion of one stone exceeding a certain size is an anatomical impossibility; and the first difficulty to be surmounted in the removal of such a concretion is its size. To divide it therefore, or break it down by mechanical means, is the most obvious method of attaining the object; but how to affect this through such a narrow canal as the urethra, was the point which appears to have perplexed all those who investigated this subject, and most powerfully called for the exertion of their ingenuity.

In meditating on these difficulties, we have a good example of what has occurred more than once in the history of the healing art. We allude to the circumstance, that a measure, from the adoption of which a professional person regularly educated, impressed, as he imagines, with the principles and reasons of all his practical proceedings, and understanding, as he conceives, their dangers, difficulties, and practicabilities, would shrink in despair, recoil with indignation, or turn with absolute contempt, is not unfrequently confidently undertaken, and successfully accomplished by one utterly ignorant of the supposed principles, utterly unaware of the imagined dangers, and in all probability completely incapable of comprehending the alleged practicability. The operation of breaking down a stone within the bladder was first performed, so far as testimony goes, by an ecclesiastic of Citeaux, and a military officer of the East India Company's service.

The latter case, that of Colonel Martin, Dr. Monro, the present Professor of Anatomy in the University of Edinburgh, used to relate to his pupils as an instance of a method of curing stone without cutting into the bladder,—singular in its nature, and therefore worthy to be known, but though practicable, neither very expedient nor likely to be repeated. In alluding to this fact, the reporter speaks as if its statement required to be clearer, and its date more distinctly fixed, in order to establish his title to priority. We pledge our personal testimony for it so long ago as 1813; and the case had then been related much oftener than the first time, so that the professor is as much entitled to the merit of the method of lithotrity as any of the present competitors. The case has since been published in the Journal of the Royal Bombay Institution, and again in the 2d edition of the work of Dr. Marcet, in either of which works an account may be read. The method used by Colonel Martin was by introducing through the urethra a steel sound, the extremity of which was sharpened like a file. For an authentic account of this we refer to another department of this number.

To this case the authors of the report on the work of M. Civiale have added one which appears to have occurred at a still earlier period. A monk of Citeaux in Normandy is said to have cured himself of stone by introducing into his bladder a flexible catheter, through which he caused a long straight piece of steel, terminating like a chisel, to move. When the end of this was brought against the stone, he struck smart blows on the other end with a hammer, and thus succeeded in detaching minute portions of the calculus, which, when voided, were preserved for the inspection of the curious. The authority on which this narrative rests, is not mentioned; and we must avow our ignorance of its original source.

The practicability of the method of lithotrity was thus demonstrated empirically long before its merits were examined, or its principles were investigated by surgeons.

An important element in any scheme of this description is to ascertain the practicability of breaking down a concretion within the bladder by instruments introduced through the urethra. Though not absolutely impossible, it may be attended with such difficulties and inconveniences as to render it inexpedient; and this itself may constitute a serious objection to the lithotritic method. It is manifest, that, in the case of hard concretions, such, for instance, as consist chiefly of lithic acid, of phosphate of lime, or of oxalate of lime, the difficulty of dividing them mechanically is much augmented. In the softer species again, especially the fusible calculus, which is friable, and the ammoniaco-magnesian phosphate, which is always less compact than the three first mentioned, division by instruments must be comparatively easy, and of short duration.

It is well ascertained that some urinary concretions have fallen down spontaneously into fragments within the bladder; and various examples of soft or friable calculi are recorded or alluded to in the annals of vesical surgery. Barbette stated long ago that he had more than once met with calculi so soft, that he was persuaded he could have broken them even with the sound in the neck of the blad-

* Traité des Maladies Chirurgicales, &c. Tome ix. p. 318.

† Medico-Chirurgical Transactions, Vol. xi. p. 349, 357.

der.* Heister, in the Philosophical Transactions, (No. 417, p. 13,) describes a case in which 100 pieces of broken calculi were at different times voided through the urethra. And Detharding† has recorded an instance of fragments of a calculus being voided for many weeks. Lastly, it is well known to those conversant in surgical operations, that in several instances in which lithotomy has been performed, the concretion has been so friable as to break down between the blades of the forceps, and increase greatly the labour of the operator in extracting them.

While these facts show the difficulty of the method of lithotrity in some instances, they demonstrate its practicability in others. If it can be ascertained that the stone consists either entirely or chiefly of the fusible matter, (triple phosphate and phosphate of lime,) or of the triple phosphate, or even of the cystic oxide, it may be very easily broken down into small portions.

To Gruithuisen, the Bavarian physician, above-mentioned, is ascribed the merit of conceiving this mode of operating, and of contriving an instrumental apparatus for effecting it. This physician commenced his proposals by demonstrating not only the practicability but the facility of introducing straight sounds through the urethra into the bladder. In two individuals he introduced, without difficulty, glass cylinders rounded at the ends, and from three to four lines in diameter. He afterwards, to obviate the objections of the incredulous, performed the same operation on a man of thirty, in the presence of Counsellor Mussinau, Professor Kaurk, and other competent judges.‡

The point of straight catheterism being established, Gruithuisen proceeded to describe his lithotritic apparatus, which consists of a silver canula enclosing a double wire loop for clasping and holding the stone, and a sharp piercer or stone-drill, which, being made to revolve on its axis by means of a bow, is made to perforate the part of the stone to which it is applied. In some instances he proposed to vary this instrument by substituting the crown of a small sized trepan.

The method now mentioned is with some justice censured by M. Leroy, who regards it as too dangerous a mode of dividing or comminuting the stone. It is certainly a mode both rude and hazardous, in so far as a wire noose, not very accurately fitted, is much too insecure a means of retaining a concretion upon which a perforating instrument is operating within the bladder. He acknowledges, however, that to Gruithuisen is due the merit of opening the path to this new mode of operating.

It is a remarkable proof of the ignorance in which at certain times one part of the world remains of the proceedings of the others, that this proposal of Gruithuisen seems to have been completely unknown in France, and if known in this country, no proof of such knowledge ever was given. This at all events may be inferred from the fact, that the next proposal of this description is that of Mr. Elderton, originally published in this Journal, Vol. xv. This contrivance, for the account of which we refer to its proper place, is admitted by M. Leroy to show that its author perceived the practicability of lithotrity, but is still objectionable from the insecure mode in which the concretion is proposed to be held.

Previous even to this period, according to the statement of the report, that is, in July, 1818, M. Civiale had applied to the minister of the interior for pecuniary advances to defray the expense of constructing instruments, which he conceived would be adequate to destroy urinary concretions within the bladder without recurring to cystotomy. This application was some days after referred to the Faculty of Medicine, with a memoir explaining the instrumental apparatus, which, even at this stage of the business, he had denominated *lithontriptor*. On the 14th of the same month the society appointed to M. Civiale the same commissioners who were latterly given him. But at this period no report was made, and the matter remained stationary.

The following year, however, 1819, the lithontriptic apparatus was constructed by a mechanician of Paris, with the modifications and amendments which it possessed at the date of the report. The invention of the instrument, therefore, described and employed by M. Civiale, is assigned to that gentleman exclusively by Baron Percy and M. Chaussier, the authors of the report. Admitting the ingenuity and originality of the method of the Bavarian physician, they consider it, nevertheless, vague and incoherent; and they assign to M. Civiale the first place for the happy manner in which he has established, explained, and put in practice a proposal little more than sketched in a foreign journal.

The first step which appears to have occurred to M. Civiale at this period, was the possibility of introducing a straight sound, or catheter into the bladder. Baron Percy remarks, that De La Stône, in studying the anatomical peculiarities of the urethra, had recognised that this tortuous but extensible canal might be made to follow several directions, and become even rectilineal under the use of a sound of this shape. The experiments of Gruithuisen, and the instrument of Elderton already mentioned, were equally unknown. Meanwhile, M. Amussat, who openly claims priority on this point, had, from his intimate knowledge of the disposition, direction, and capabilities of the male urethra, been in the habit of employing straight catheters previous to 1818. We have already, on a former occasion, mentioned this surgeon and the peculiarities of his method; and it is superflu-

* "Se tam mollem sæpius invenisse vesicæ calculum ut etiam vel solo cathetere in collo vesicæ conterere potuerit."—Chirurgia, p. i. c. 76.

† Dissertatio Medico-Chirurgica de Calculo Vesicæ Friabili. Apud Haller, Disput. Chirurg. Tom. iv.

‡ Salzburg Zeitung, 1813.

ous at present to do more than merely refer to the article in which his name is introduced.* Though we are aware that some experiments on this point had been performed in London by Mr. Stanley, teacher of anatomy, yet we cannot speak positively as to the exact date, whether it be previous or subsequent to that at which M. Amussat had established the fact. It cannot be denied, on the whole, that to the latter belongs the merit of clearly demonstrating the fact, and acting on its knowledge in his operations on the bladder and urethra. He has in short rediscovered the method practised by Gruithuisen.

In returning to M. Civiale, we now find him interfering somewhat with the claims of M. Leroy. It appears to be quite undetermined whether the former gentleman had also established, by his own researches, the possibility of introducing a straight catheter, or had derived this from M. Amussat. According to the statement of M. Leroy it appears, that while M. Amussat was led by his employment of the straight sound to contrive a stone-breaking instrument, M. Leroy, pursuing this discovery of M. A., had also effected a similar invention. M. Leroy, however, it must not be forgotten, connects the announcement of M. Amussat of the practicability of using the straight catheter with the month of April, 1822, a date nearly four years posterior to the time when this anatomist is said to have first established the fact, and three years posterior to the time when M. Civiale is said to have constructed his lithotritic instruments.

These circumstances render it difficult to decide the question of priority as to the invention of the *brise-pierre;* and perhaps, though important to the individuals concerned, it is of no great moment to the surgical world at large. The fact is certain, that both M. Leroy and M. Civiale have contrived apparatus adequate to break down urinary concretions within the bladder; and this is, probably, all that it is important for the world at large to know. For a fuller view of this debated point we refer the reader to the elaborate paper of M. Travernier. We come now to consider the comparative merits of the methods in use, and to examine how far they are calculated to attain the end in view.

The principal instrument devised by M. Leroy is what he terms the *lithoprion* or stone-saw, (λιθος lapis and πριων serra;) of which he has two forms,—the simple lithoprion, and the lithoprion pincers. The essential part of the former is a steel rod, to one end of which are attached two small saws, mutually diverging by means of a spring, and the toothed edges of which look in opposite directions. This instrument is to be introduced through a silver canula, which is enclosed within another canula, in the interval between which are contained four pieces of watch-spring, so arranged that when introduced into the bladder, they start out and embrace the concretion, which is thus maintained immoveable. When the stone is thus secured, a long drill is introduced through the inner canula, and by working it upon the stone, a hole is drilled as nearly as may be through the centre. This being completed the drill is withdrawn, and the lithoprion is introduced in its place, and, being inserted into the perforation made by the drill, is wrought in the interior of the stone, until the latter is either entirely divided or easily gives way.

With this apparatus M. Leroy made many trials on the dead subject, and two of these publicly. Each time the stone was seized and perforated without causing any injury to the bladder; and the experiment was carried no further, since the stone, which consisted of oxalate of lime, was large and very hard, would have taken too much time to be entirely broken, and because in the dead body the absence of sensibility must have rendered the operation the same from the beginning to the end.

The resemblance between the lithoprion of M. Leroy and the instrument of Gruithuisen in general principle is obvious. It must be admitted, nevertheless, that the steel-spring-case affords a much more secure method of clasping the stone and preventing injury from the drill than the wire loop of the latter author.

Some physicians thought they could trace an analogy between the lithoprion and the *vesical* of Franco, or the ball-screw of Alphonso Ferri. Though M. Leroy contends that there is a great difference between it and these instruments, he has not disdained to imitate the principle of the ball-screw in constructing what he denominates the lithoprion pincers or forceps. He also admits the resemblance of this instrument to the three-fanged pincers of Sanctorius. It consists of a steel canula terminating in three tempered fangs, which are made to separate naturally. By sliding this into a silver canula these fangs are made to approach mutually, in order to be introduced through the urethra into the bladder, when, by moving the steel canula according to the indications of a scale attached, they may be separated to any degree till they grasp the stone. Their concave surface is armed with filing or sawing teeth; and by withdrawing the steel canula a little they are brought to clasp the surface of the concretion. A hole being drilled in the centre of the stone as before, a bifid drill is introduced and carried through the perforation; and by giving this a rotatory motion, either the stone is carried round, while the surface is rasped by the lithoprion forceps, or if these grasp it too firmly to admit of this motion, the central hole is enlarged, until the stone is reduced to a thin shell, which at length breaks into fragments.

Such is the apparatus of M. Leroy, and its mode of operation. The details regarding the mode of procedure, and the rules to be observed, are also given; but these the imagination of the reader will easily supply.

Of the apparatus *peculiar* to M. Civiale it is not so easy to obtain a distinct account. At

* Medical and Surgical Journal, Vol. xxiv. p. 172.

first his object was to dilate the urethra, to introduce into the bladder a straight instrument, in order to perforate the calculus, and to enclose it in a sac containing a solvent liquor to effect the solution, as well as the mechanical division of the stone. With this view he constructed an instrument furnished with a pouch or sac, and forceps with four arms, carrying in its interior a sort of drill, which was made to revolve by the fingers. This second instrument, termed indifferently *lithontriptor*, *lithoprione*, or *saxifrage*, was constructed of two hollow metallic cylinders, one of which was inserted within the other, and the end of which was furnished with four or more diverging branches kept apart by their own elasticity. Their inner surface, nearly flat, was smooth in the two posterior thirds, but armed with teeth in the rest. The opposite end of this cylinder was marked with lines to indicate the degree of divergence of the arms when the instrument is in the bladder. It was fixed to the outer tube by means of a screw attached to the latter. Through the inner cylinder was introduced a steel stilette, the anterior extremity of which is pyramidal, with acute angles or flat, but armed with teeth like those of a saw; and by giving this a rotatory motion the concretion was to be perforated or ultimately broken.

The first part of this apparatus, the pouch instrument, is clumsy and inconvenient, if not impracticable in application. The second part, the lithontriptic instrument, is better, but is nevertheless so imperfect, that we believe it has since been relinquished by its author; or at least it has undergone changes so great that it can no longer be viewed as the same instrument.

Thus to the blades of his lithontriptor, which were formerly flat, he has given a degree of curvature, so as to form a concave receptacle for the concretion. He has armed them all over with teeth, so as to operate on the stone at all the points of contact. And lastly, he has given the drilling stilette a more energetic and rapid rotatory motion, by subjecting it to the action of a bow or a hand-drill. In short, the instrument now used by M. Civiale is as near as may be the latter instrument, or the lithoprion forceps of M. Leroy.

These several forms of lithontriptic apparatus have been more or less modified and improved, according to the views of individual operators. Of these the most distinguished are M. Heurteloup and M. Merieu, who have effected, in the construction of the instruments, some rather beneficial changes, by which the operation is certainly both simplified, rendered less dangerous, and made considerably easier. Into the details, however, of these changes, we have not leisure to enter.

The operation of lithotrity itself has been divided by those who practise it into three stages. The first is that in which the straight instrument is introduced, and the calculus is seized and secured. The second is that employed in perforating, rasping, and breaking it down. To the third they have allotted the business of extracting the fragments from the bladder.

In the different modes of proceeding by Leroy, Amussat, Civiale, Heurteloup, and Merieu, the principle of securing the stone is much the same. That of M. Heurteloup, as described by Tavernier, appears to be the most efficient. Like the others, it consists of a four-bladed forceps, placed in the interval between two silver tubes, one of which is inserted within the other. That of M. Merieu is distinguished first in the two tubes being made of steel, in the inner one being incomplete its whole length, and split into five portions, which form so many blades of forceps, while the deficiency is supplied by two other plates, which are made to form the sixth blade; and secondly, in his lithontriptic instrument or stone-file being made to act at once in the centre and on the circumference of the concretion.

The destruction of the stone is effected in all the methods, first, by drilling a hole in the centre, as nearly as it is possible to conjecture, of the concretion; secondly, by enlarging this in various modes.

To effect this M. Leroy introduces the bifid rasp closed into the perforation, after which, by withdrawing the canula, the arms are allowed to diverge. The canula is then secured by means of the screw, and the instrument is subjected to the rotatory motion by the hand-drill. When the bifid rasp has thus enlarged the opening as much as the divergence of its limbs admits, a simple rasp, supported by an elastic stalk, is introduced, and moved in the same manner; and successively other rasps may be used till the operator is satisfied that the stone is reduced almost to a shell.

In the method of M. Merieu, when the concretion is seized, the stone-file *le lithorineur* (λιθος *lapis* ρινη *lima*,) an instrument consisting of a central piercer and two files placed at the same angle to it, is made to revolve by means of the hand-drill, and while a hole is drilled in the centre, a spherical segment all round is removed from the surface of the stone.

In the method of M. Heurteloup, when the concretion is perforated, an instrument termed a *scooper*, armed with a serrated plate, is introduced into the perforation; and by the rotatory motion communicated to it, while the obliquity of its direction is by particular mechanism constantly increased, as the destruction of the stone proceeds, it acts from the centre to the circumference until the stone is reduced to a mere shell, and is broken with facility.

In the method of M. Amussat, after the perforation is completed by the first drill, its place is supplied by another, which is bifid, and the two arms of which, armed with cutting edges, are separable to any given extent by a simple mechanism. The handle being applied, the rotatory motion is continued until the operator feels that it no longer grates the hard matter of the stone, when the arms of the bifid drill are again to be separated. The rotation is

resumed until so much of the stone has been grated that the sound again becomes faint or ceases, when the arms of the drill are once more to be separated, and the same course continued. When the stone thus grated from the centre to the circumference has become very thin, if it does not give way at once by the repetition of the drilling, it is to be seized with the stone-breaker, (*brise-pierre*) and crushed between its toothed blades.

The mode of removing the fragments is similar in all. The mere powder is carried off by the urine, or by injections of watery demulcent fluids. Small fragments are extracted by such contrivances as the forceps of Hunter; and if fragments too large for this are still left, a second division is necessary.

In addition to the instruments of the surgeons above mentioned, Mr. Weiss of London, whom we have had occasion to mention more than once as an ingenious artist, has contrived a lithontriptic instrument; and Mr. Lukens of Philadelphia has in like manner constructed for the same purpose what is there termed a *lithokonion*, a description of which is given by Dr. Horner in the Philadelphia Journal, (Vol. i.)

It is rarely possible to destroy a urinary concretion by the first attack, whatever be the method employed, more especially if the stone is hard, if it exceeds an inch in diameter, and if the patient is irritable. M. Civiale does not detain his patient much beyond ten minutes. The number of times which the operation requires to be repeated varies according to the size and the consistence of the stone, the wearing which it causes to the instrument employed, and upon the state of the patient. Equally variable are the intervals between the operations. M. Civiale believes it may be repeated at a space varying from the third to the fifth day.

It would doubtless be very desirable if this repetition of the operation could be entirely superseded, and if a concretion of any size could be completely reduced to fragments at a single sitting. A hope of this description is held out by some of the apparatus employed, especially by that of M. Merieu. But whatever power and efficacy be given the instruments employed, it is manifest that nothing but actual experiment can determine the length of time during which the necessary apparatus can be retained in the urethra without injury to that canal, or the neck of the bladder itself.

The report of Baron Percy contains the details of three cases, in which M. Civiale destroyed and removed entirely unrinary concretions within the human bladder, in the presence not only of the reporters, but other eminent physicians and surgeons of the French metropolis. Among others the reader recognises the names of Larrey, Giraudy, Magendie, Sedillot, Serres, Nauche, and Souberbielle,—sufficient testimony to the authenticity of the facts. A brief outline of these cases may be interesting to the reader.

In the first case a young man of thirty-two, proved to have in his bladder a large hard stone, by sounding in the presence of the reporters, and Larrey, Giraudy, and others, was the subject of operation on the 15th January, 1824. The moment the bow was put in motion all present heard a grating noise, which was at once ascribed to the hardness of the mulberry calculus, (oxalate of lime.) The operator allowed a respite thrice to the patient, who felt rather constraint than actual pain. After forty minutes the patient descended from the bed, and with a little urine voided the water injected, and discharged numerous fragments of the concretion, which was supposed to be diminished one-third. On the 23d the operation was repeated in the presence of the reporters and MM. Magendie, Serres, and Aumat; and again on the 3d of February, when after considerable quantity of powdery matter and fragments was discharged, the patient was ascertained to be free of the stone.

The second case was that of a man from Rheims, whose bladder was ascertained to contain a concretion, the nucleus of which was known to be a garden bean. From the sounding, which was performed in the presence of the reporters and Souberbielle, a well known and accomplished lithotomist, the concretion was judged to be soft and about the size of a chesnut. On the 4th of February the instruments were introduced, and the stone seized. The sound heard was dull and occasionally obscure. The bladder, however, being very irritable, the operation was abridged; and the application of leeches and the injection of emollient liquors were deemed expedient. The result was the discharge of several friable portions of stone and much earthy sediment. The operation was repeated on the 7th, with the effect of causing the discharge of some portions of divided concretion, and two or three little masses of viscid animal matter. At a third operation on the 10th, the forceps seized something not very large and somewhat compressible, which proved to be the bean stripped of its earthy crust, and presenting a rostellum as if germinating. Some days after the husk of the bean was clasped by the forceps and extracted; and a last fragment, the presence of which was ascertained by the accurate sounding of M. Souberbielle, was easily removed by M. Civiale by means of the forceps of Hunter.

In the third case, a young Parisian was on the 2d of March ascertained in the presence of the reporters, M. Souberbielle, and other surgeons, to have a stone about the size of a pigeon's egg. Its consistence was moderate; and it was seized and perforated with facility. On the 5th, when it was again attempted, it could not be found, and the meeting was abortive. On the 18th, when the third attempt was made to introduce the instrument, to find and secure the concretion, to grate it and reduce a large part of it, was the business of some moments only. Small grains of gravel and much fine sand, like cutler's powder, were discharged with the urine and injected fluids. By the long forceps of Hunter three or four

parcels of viscid mucus enveloping calcareous grains, were extracted; and the complete cure was regarded as very near.

These cases demonstrate the facility and the practicability of the lithotritic method in males under ordinary circumstances; and with those in which both M. Civiale and others have since successfully operated, they must be held to be good and sufficient evidence of the general utility of the method as a substitute for the formidable and too often uncertain operation of cystotomy. In females the lithotritic method will be still more easy than men, were not the method by dilatation of the urethra almost equally practicable and advantageous.

It must not, nevertheless, be denied, that cases of calculus in the bladder may be attended with circumstances which render the method of lithotrity inadmissible, and even impossible, while that of cystotomy may be indicated. Thus, if the stone is very large, it may exceed the grasp of such an instrument as can be introduced through the urethra. When the concretion is contained either entirely or partially in a cyst, or in a sac of the bladder, the use of the lithotritic method will be equally unavailing. *Lastly*, concretions deposited on metallic substances, for instance a needle or bodkin, a leaden bullet, or the point of a sword, as has sometimes happened; a button, a tooth-pick, or an ear-pick of gold, ivory, or bone, &c. cannot be conveniently destroyed in this mode. If a concretion were known to be deposited on a bodkin or a needle, it might be so far destroyed that the nucleus could be seized longitudinally, and extracted by the urethra. This, however, implies a concurrence of circumstances so singular, that it is almost impossible to imagine the mere possibility. In the case of a concretion formed on a musket bullet, or the point of a broken sword, it is manifest that the operation is quite indispensable.

From the Gazette de Sante.

CYSTOTOMY ABOVE THE PUBIS.

In a communication made to the Académie de Medecine, M. Amussat, after indicating the circumstances which may render inexpedient the operation of lithotrity; such as the great magnitude of the stone; the extreme youth of the patient; the morbid condition of the bladder, kidneys, etc.; declares, that in all such cases, the operation above the pubis should be preferred. From his anatomical researches, he has been led to the conclusion, that the usual method of preparing the bladder and rectum, in order to form a judgment of the direction of the urinary canal, has been productive of error, and has retarded the progress of surgery in relation to catheterism, and the possibility of destroying a stone in the bladder;—he has demonstrated that a bladder distended with air, has a different form and position, from the same receptacle, filled with a fluid. It is upon these considerations, that his new operation is founded.

The bladder, in a state of vacuity, is concealed behind the ossa pubis, and fills exactly the depression, formed by the projection of these bones anteriorly; it has the form of a flattened cone, the base of which is below and the apex above; its posterior portion is in contact with its anterior, and it presents, towards the rectum, a concavity analogous to that formed by the ossa pubis. This disposition is determined by the peritoneum, and the pressure of the small intestines. The apex of the bladder rarely rises higher than the upper margin of the bones of the pubis, so that its anterior surface is in contact with the whole extent of the symphysis.

Its conical, or rather triangular form, arises from the disposition of the urachus and ureters. In order to ascertain that the bladder does not entirely return upon itself, as in animals, it is only necessary to divide the symphysis upon an entire body, and it will then be seen, that this fortunate disposition of parts, is singularly favourable to the operation above the pubis.

M. Amussat divides the operation into six principal stages. In the first instance, warm water is injected into the bladder—it is not necessary to give to this viscus, the proper degree of tension, that it be distended as was formerly done by frere Côme,—the quantity of fluid which it habitually contains will be quite sufficient, and even in this case, the patient is frequently tormented by the desire of urination. An assistant grasps the penis, to prevent the discharge of the fluid.

In the second stage he makes an incision through the integuments, in the direction of the linea alba, about three fingers breadth in length, and then penetrates the latter, immediately above the pubis, to an extent capable of admitting one finger only.

The third stage, consists in plunging a bistoury into the bladder, guided by the index finger; the bistoury is then withdrawn, and the finger bent in such a manner as to suspend the organ.

In the fourth stage, he explores the bladder with the finger, enlarges the opening in that viscus, and in the linea alba if it be deemed necessary, places the stone in the grasp of the forceps, and finishes the extraction in withdrawing his finger.

The introduction of a large curved canula, by the inferior angle of the wound, in order to give exit to the urine, makes the fifth stage. The sixth consists in affecting union by the first intention, of all that portion of the wound situated above the canula; for which purpose he makes use of adhesive straps, graduated compresses, and a bandage round the body.

Called to Poitiers, in October last, to perform a single operation of this kind, M. Amussat relates that it was practised upon four other persons, a detail of whose cases is contained in his communication to the Academy.

Of these five persons in whom lithotrity was impracticable, three were old men, and the two others, very young children. All were entirely cured, notwithstanding their unfavourable condition at the time of its performance.

The first was a physician at Neuville, 65 years of age, of a strong constitution, but much exhausted by the severity of his sufferings; he was very desirous of avoiding the operation, but the magnitude of the calculus, and the condition of the bladder, precluded all idea of lithotrity. The operation was performed, 29th October, 1827, in presence of a great number of physicians, and a large stone, of the form and size of a kidney, was removed. Examining the bladder with the finger, subsequently to the extraction, a small tubercle was observed near its neck, which was removed by the aid of long, curved scissors, blunted at their extremities. M. Amussat has contrived an instrument of this kind, purposely for the extirpation of excrescences of the bladder and uterus.

A curved canula was afterwards introduced into the bladder, through the wound, which was united by the first intention, above that instrument. The dressings were removed on the fifth day, and the opening occupied by the canula was all that remained. A canula of smaller calibre was introduced on the eighth, and two days after, this also, was discontinued. Urine flowed from the urethra, on the evening of the twelfth day after the operation, and by the twenty-second, the wound had entirely cicatrized.

After a detail of the four other cases, M. Amussat makes some observations upon the importance of the canula; affording at all times a free passage to the urine, and the mucous secretion from the bladder; it has also the advantage of promoting union by the first intention, and of forming, in its course, a fistulous passage, which removes all danger of extravasation. The two first persons operated upon, carefully maintained a horizontal posture; the canula was removed on the seventh day, and the cure completed about the twenty-second, without the slightest unpleasant symptom.

Two of the patients, one 76, and the other 4 years of age, were, on the contrary, indocile, and presented nearly all the symptoms which are observed when the canula is not employed. In these cases the wound remained long open, and its lips assumed a dark, unfavourable aspect; the febrile action, also, ran higher, and for several days apprehensions were entertained respecting the event.

The fifth patient, a child of two years of age, was confined to the bed in such a manner, that it was incapable of the slightest motion; as in the two first cases, the wound united by the first intention, and the track of the canula soon became fistulous, rendering it unnecessary to introduce a catheter through the urethra, as was done in the other instances; its presence, in this case, would have occasioned great pain, without corresponding utility.

Independently of the numerous facts in support of his opinion, recorded by various authors, M. Amussat observes, that it may be inferred from the five preceding cases, that the most important object, after the operation, is to prevent the passage of urine by the wound, and thus avoid the consequences following the extravasation of this destructive fluid.

From the Lancet.

DEEP-SEATED INFLAMMATION OF THE ORBIT, AND PROTRUSION OF THE EYEBALL; *Morbid growth behind the Globe, and destructive Inflammation of the Eye; Extirpation of the Orbital Contents.*

John Banting, ætat. 30, was admitted into Henry's Ward, April 4th, 1827, under the care of Mr. Lawrence. He came from Brighton, in an open cart in one of the coldest days in January, and suffered severely in the journey; his left arm and leg were quite benumed, so that he could not move them, and he did not recover the use of them for three or four days. At the same time he experienced pain in the left eye; in about a fortnight after his journey from Brighton, the eyelids swelled, and the lower lid at the same time became everted, and the conjunctiva between it and the globe swelled up, according to the patient's description, like a bladder. He had distracting pain in the eye and whole side of the head, and was in constant agony night and day, so that he got no rest until he was completely exhausted by suffering. During this time he was cupped in the left temple, had leeches applied about the eye six or eight times, and had the head shaved and blistered, with only partial and temporary relief. The sight became imperfect a month before his admission into the Hospital, when he came under the care of Mr. Vincent, who punctured the tumid conjunctiva, without giving issue to any matter. Mr. Vincent requested the opinion of Mr. Lawrence on the case, and, after consultation on it, expressed his desire that Mr. Lawrence would take charge of the patient.

April 4. The eye-ball is pushed forwards, and a little upwards, projecting, by comparison with the other, about three-fourths of an inch. The upper lid, which is slightly inflamed, is protruded in an equal degree; the patient is unable to elevate it, and it cannot be drawn up sufficiently to expose the cornea without difficulty. The lower lid is everted by a considerable swelling of the conjunctiva, which is red, and loaded with serous effusion. This swelling has existed from the beginning of the affection; the patient says that it was then larger, and appeared like a bladder of water. The redness extends to that portion of the conjunctiva which covers the lower part of the globe. The rest of the conjunctiva oculi having its natural paleness. No change is observable in the globe; the iris moves freely, but vision is very imperfect; he cannot see even large letters. A firm swelling, without any fluctuation, is obscurely felt within the inferior margin of the orbit; there is still considerable pain, although much less than before. Mr. Lawrence considered it to be a case of abscess deeply seated in the orbit; the severe pain indicated acute inflammation

and suppuration, the tumefaction accompanying such an affection would cause displacement of the globe, and the latter would account for the imperfection of vision. In conformity with this opinion, Mr. Lawrence made a puncture through the skin at the lower and outer part of the orbit, carrying a double edged knife more than an inch deep, in the situation of the firm swelling, and moving it laterally with some freedom; no pus followed. Bread poultice; opening medicine daily; milk diet.

10. The wound began to discharge pus copiously three days after the puncture, and that discharge continues; a probe passes in, to the depth of one inch and a half. The pain is quite removed; the tension of the globe and the swelling of the lids lessened, and the sight improved.

28. There is a continued copious discharge of matter; the upper lid can be elevated, so as to expose the cornea: he can read small print. Remaining nearly in the same state, he left the Hospital on the 3d of May, and attended occasionally, that the progress of the case might be observed. After some time, the eye became rather painful, and he was re-admitted on the 25th of May.

The partial protrusion of the globe, the red œdematous swelling of the conjunctiva, and the purulent discharge from the puncture, remain as when he left the Hospital. A probe passes into the opening about two inches, and can be moved in different directions. Pressure on the eyeball forces out matter from the puncture. There is a firm swelling below the edge of the orbit, leading to a suspicion that the antrum is affected; the cheek and left half of the lip feel benumbed. Leeches have been applied two or three times, and a poultice is continued. He takes aperient and alterative medicines. On carefully examining the part with a probe, bare bone was found at the bottom of the orbit, and the patient then began to have discharge of matter into the left nostril; since that, he found in blowing his nose, that air was forcibly expelled through the puncture, and he shows the fact without trouble or uneasiness.

August 6. Since the last date, the puncture under the lower eyelid has closed; there has been occasional discharge of matter into the nostril. He has suffered considerably from pain behind the orbit, and on the side of the head, the inflammatory symptoms in the part being rather increased. For these, leeches have been several times applied, generally with temporary benefit. A fortnight ago, a fresh and deep puncture was made into the orbit, just behind the external canthus; there had been a previous increase of swelling and redness about the eye, with great constant pain, and a rather deep-seated hardness was felt, in which, however, no fluctuation could be distinguished. This puncture, in making which the instrument was carried nearly two inches deep, went into the cavity formerly exposed; a few small granules passed out with the blood, but no distinct matter. Air passes out of the opening on blowing the nose, as it did in the former case; the probe goes deep into the orbit, and bare bone can be felt with it towards the lower part. A tolerably free discharge has taken place from this opening, and there was at first some relief, but the pain has returned, and the redness and swelling of the lids, with the œdematous protrusion of the conjunctiva over the lower, (particularly the latter,) are as great as ever. As the painful symptoms continued, in spite of repeated abstraction of blood locally,—as the discharge had ceased, and the wound healed,—and as a firm, rather prominent, substance could be obscurely felt towards the margin of the orbit, it was thought advisable to cut down on this part, with the intention of removing it, if any distinct tumour should be found. The external commissure of the lids was accordingly divided, and a small piece of indurated substance removed, without any adequate cause of the symptoms being discovered. He continued suffering very severely from pain about the orbit and side of the head, and numbness of the cheek and jaw, with increased redness of the eye and lids, and greater protrusion; these symptoms being only mitigated in degree by local bleedings and narcotics. The protrusion of the globe was now more than an inch; the pupil largely dilated, the iris motionless, and vision lost, except the mere power of discerning a large object, or distinguishing light from darkness.

The protrusion slowly increased, the vessels of the conjunctiva became more turgid, and the general redness of this membrane was greater; the pain in the surrounding parts continuing, so as nearly to prevent rest. In November, the conjunctiva of the globe, which had hitherto remained nearly natural, became of a deep red, while the cornea at the same time inflamed, lost its transparency, ulcerated, and then sloughed. The humours of the eye and some blood escaped when the dead part separated, and the iris protruded, so as to form an irregular dirty-looking mass, with a depression in the centre.

Mr. Lawrence observed, that the destructive inflammatory, ulcerative, and sloughing process of the cornea, with escape of the humours which the eye had undergone in this case, resembled what Magendie had described, as the consequence of dividing the nerve of the fifth pair in animals; and was probably owing to an analogous cause, as the morbid growth which caused the protrusion must certainly have compressed, or otherwise injured, the ophthalmic branch of the nervus trigeminus. The evacuation and subsidence of the globe did not diminish the patient's sufferings, nor the external swelling, which, on the contrary, still increased.

As the complaint had now been progressive for many months, in spite of active treatment, both local and general, and as the health, although in other respects perfect, was suffering under the constant severe pain,

Mr. Lawrence determined, with the concurrence of his colleagues, and of several other gentlemen who had seen the case, to remove the contents of the orbit; the patient feeling persuaded, that the operation afforded him the only remaining chance of relief, and being, therefore not only willing, but desirous of submitting to it. Accordingly it was performed on Thursday, December 6th. The palpebræ were freely separated at their external commissure, and then turned aside, so as to expose fully the anterior aperture of the orbit, the entire contents of which were detached from the cavity, by dissecting close on the surface of the latter, first below, then above and at the sides, until the posterior connexion alone was left. The latter was then divided by a knife, curved on its flat surface, the patient appearing to experience excruciating agony at the moment of dividing the muscles and nerves. The mass, which was firm and almost hard, completely filled the orbit, so that the dissection was necessarily carried close to the bone, and performed slowly. As the ophthalmic artery bled profusely, a conical compress of lint was introduced into the orbit, and held for some time on the vessel; this was removed in the evening, as Mr. Lawrence objects strongly, to the introduction of any foreign body into the cavity after this operation. The divided commissure of the lids was united by two sutures; and the tumid upper eyelid closed the front of the orbit. He took thirty drops of laudanum at night.

7. He slept at intervals, and passed a comfortable night; bloody fluid had oozed between the lids, but there had been no actual bleeding. The palpebræ are swollen and bright red; the face is flushed, and he has slight headach, thirst, and foul tongue. Twelve leeches around the margin of the orbit. Saturnine lotion; a dose of calomel and jalap. The inflammatory and febrile symptoms had disappeared on the next day, and the pain of the brow, head and cheek, which had distressed the patient for so many months, was almost gone. Recovery now proceeded rapidly and uninterruptedly, the surface of the orbit granulating, and producing a vascular substance, which filled up a large part of the cavity; rest and appetite returned, while meat diet speedily restored flesh, strength, and good looks. He was discharged quite well on the 28th December, but has shown himself at the Hospital, in perfect health, within two or three days. The right eye, which had been sympathetically affected before the operation, is now as strong as ever. During the progress of the disease in the left, the right had felt weak, and occasionally painful on exercise, so that he could not use it freely.

The mass removed from the orbit consisted of the collapsed and shrunk eyeball in front, with a hard and incompressible substance behind, extending to the point at which the nerves and vessels had been divided. The recti muscles, unaltered in appearance or texture, covered this substance, the exterior of which had the usual appearance of the orbital fat, except that it was more dense. An incision was carried from before backwards, directly through the centre of the entire mass. An apparently recent coagulum of blood, separated the sclerotica from the choroid coat, the latter, with the retina, being compressed by the coagulum into a thick cord, extending from the optic nerve to the iris; there was no trace of humours; the sclerotica was natural; the morbid growth adhered to it closely behind, and the optic nerve proceeded through the centre of the mass. The latter was a dense compact structure, of schirrous firmness, resisting the edge of the knife; its exterior consisted of a light gray texture, very much like that of a scirrhous breast, while in the interior this was intermixed with a light yellow, yet firm substance, resembling what is seen in scrofulous diseases.

Mr. Lawrence observed, that he used the expressions "scirrhous firmness," and "scirrhous structure," merely to describe the character of the morbid production, and not to convey an opinion that it was of a carcinomatous nature. He did not entertain the slightest apprehension that disease would return; yet, on reviewing the history of the case, and comparing with its course the bulk and texture of the morbid growth, he was satisfied that the latter would have continued to enlarge, and the sufferings of the patient would have continued to increase, had the disease been left to itself, so that the operation must be considered to have been absolutely necessary.

Mr. Lawrence considered this, in the first instance, as common inflammation and suppuration, and he originally entered it in his case book, as "deep-seated suppuration in the orbit." The symptoms corresponded in all respects, to those of the few instances which he had seen of abscess in the orbit. He would not have expected, *a priori*, that a common cause, namely, long exposure to severe cold, would produce in a healthy young man a diseased growth, similar in external character to the malignant changes of structure.

According to the usual arrangement of diseases, this case would come under the indefinite term of *Exophthalmia*, under which all affections, whether of the globe itself, or of surrounding parts that cause displacement and protrusion of the eye, are jumbled together. No diseases ought to be named from such a circumstance as this, which is merely an effect or symptom. If the name be, however, retained, we should observe the distinctions made by the German ophthalmologists. When the eye is merely protruded, and not altered in any other respect, they call it *exophthalmos;* if the displaced eye be inflamed, they term it *exophthalmia;* when the eye falls out of the orbit, in consequence of its posterior connexions having been divided, or from paralysis of all its muscles, they call the case *ophthalmoptosis*. Mr. Lawrence has never seen the latter occurrence.—*St. Bartholomew's Hospital.*

From the Lancet.

SINGULAR INSTANCE OF GANGRENOUS INFLAMMATION *affecting the Cellular Tissue, behind the Peritoneum, with destruction of the Appendix Cæci.*

The following case, which occurred in the female clinical ward during the past week, has excited much interest. The anomalous character presented by the disease during the life of the patient, with the circumstances revealed on post mortem examination, are highly remarkable.

M. A. H., ætat. 19, was admitted on the 10th of January, under the care of Dr. Cholmondeley. She had been ill several days, and complained of great pain, and tenderness upon pressure over the whole of the right inguinal region; the pulse was quick and thready; the skin hot, and tongue furred; the bowels had been scantily open in the morning; there was occasional bilious vomiting.

The patient had been attended previously to her admission by Mr. Gaitskell of Rotherhithe, and we believe that Mr. Callaway had also seen her Blood-letting from the arm had been adopted thrice, with the free application of leeches, and a blister to the part in pain. It was surmised from the limited seat of the pain that there was inflammation of the round ligament of the womb, and the circumstance of the girl dating the origin of her complaint from exposure to cold whilst menstruating, gave a colouring to this opinion.

The treatment employed on admission into the hospital consisted in the application of leeches, with the exhibition of one grain of calomel, and a like quantity of opium, every four hours. Enemata were also directed.

On the eleventh, the pulse was quick and sharp, and there was still intense pain in the inguinal region; the patient laid in bed with her knees drawn up, any motion occasioning a severe dragging pain. The bowels had been open several times, but all the evacuations were passed with great pain, and this circumstance had been especially remarked before the patient's admission into the hospital, and also that although there had been frequent watery and thin stools, no solid matter had passed.

On the twelfth, the symptoms continuing unrelieved, blood was taken from the arm to the amount of *ten ounces*, and the pulse having risen, two hours afterwards twenty ounces were abstracted, when, according to a report in the clinical ward-book, the pulse became soft; calomel, with opium and tartar emetic, were prescribed.

On the thirteenth, the pain was still excessive, and confined to the same part; leeches were very freely used.

A report on the fourteenth, states that the patient passed some dark scybala, the tenderness and pain were somewhat less, but there was great fulness and hardness in the course of the cœcum, and ascending portion of the colon. There was occasional vomiting of bilious matter, and frequent hiccup. Ten ounces of blood were taken from the arm.

On the 15th, the sickness was very distressing, being induced on the slightest motion; the countenance was sunken, and all the vital powers were so much lowered, that a small quantity of wine was prescribed. The swelling and pain in the inguinal region were unrelieved.

On the following day, the 15th, the patient had rallied in some degree, and the report in the clinical ward-book states, that there was an obscure sense of fluctuation in the right inguinal and iliac region.

Throughout the 16th, the patient continued in an alarming condition; the bowels were now so freely relaxed, that the motions were passed in bed. About eleven o'clock at night, Mr. Key saw the patient, and "fluctuation being more distinct," an opening was made, of about two inches in extent, through the parietes of the abdomen, and at a short distance above the spine of the ilium. It is stated, that after the opening had been made, a quantity of fœtid gas escaped, and also about two teaspoonsful of sanious fluid, which was highly fœtid. The opening was effected by cautious dissection, and the peritoneum is said to have been "full an inch and a half from the surface," and "of a blue colour." A cavity was clearly to be traced with the finger.

The patient continued to suffer greatly during the 17th, and died early on the morning of the 18th, having been in the hospital, as will be perceived, eight days.

Post Mortem Examination.—This was made, about six hours after the patient's decease, by Dr. Burne, with his accustomed accuracy. Upon laying open the abdomen by means of a longitudinal incision, no morbid appearance, *prima facie*, was perceptible; but, on drawing back the integuments of the abdomen on the right side, it was found that adhesion had taken place between the omentum and peritoneal covering of the parietes. It was simply, however, an agglutination, and the parts were very readily separated, when it was found that a kind of cyst had been formed by means of the adhesions, which contained a small quantity of dark serous fluid.

The peritoneum covering the back part of the abdomen on the right side, and on which the dark serous fluid had laid, (it being of course, within the bag of the peritoneum,) was observed to be of a dark colour throughout, and there was evidently a collection of dark fluid behind it. The membrane was carefully sponged and wiped, with a view of ascertaining whether there was any lesion of its substance; however, after a minute inspection, none could be detected. An incision was then made through it, and here most extensive disease was found; the cellular tissue, over the psoas and iliacus internus, was engorged with a dark bloody fluid, the substance of the muscles themselves was destroyed to a considerable extent—in fact, the parts were in a gangrenous condition. The back part of the cœcum, and ascending portion of the co-

lon, were of a dark red colour, apparently the result of simply lying in contact with the gangrenous cellular tissue; there was no breach of their texture to be detected, and, although the peritoneum was of a dark colour, it had, as far as could be ascertained, preserved its integrity.

It is highly important to mention, that a considerable portion of the appendix cœci was found to be destroyed, and the remainder had a dark-coloured appearance. The appendix cœci was included in the kind of cyst, which, we have said, resulted from the adhesion of the omentum to the peritoneum of the right parietes. From the circumstance of the destruction of the extremity of the cœcal appendage, it was surmised that some extravasation of its contents might have taken place, but there was no fæcal smell either in the fluid accumulated within the bag of the peritoneum, or that which was formed in the cellular tissue posterior to it. And, again, there was no communication to be found, existing between the fluid within and that without, although they did not differ from each other in appearance. The general surface of the peritoneum was free from disease, and no other morbid change than we have described was observed. —*Guy's Hospital.*

From the London Medical Repository.

A Brief Reply to certain Arguments lately advanced against the Doctrine which supposes the Heart to be the sole Organ of Circulation. By F. Bailey, M.B., &c.

Of all the arguments invented by modern ingenuity against the Harveian doctrine, that the blood is circulated through the agency of the heart alone, unquestionably that is the most plausible which supposes the capillary system endowed with a muscular power. On a former occasion I endeavoured to invalidate the chief grounds on which this supposition then rested; but as other arguments have since been adduced in its favour, these I now propose briefly to examine. I have not, however, the vanity to think it will be my good fortune to place so difficult and so much litigated a point above the reach of cavil or captious objections. This were to expect what is yet a desideratum in some of the best-established truths of philosophy, and even abstract science; but I nevertheless trust I may be able to satisfy candid and considerate minds, that the old opinion respecting the causes of the blood's motion is in no great danger from such objections as those we are about to consider.

The first argument in favour of muscular action in the capillaries, to which I would direct the attention of the reader, is derived from the fact, that after death *the arteries are found empty, and the veins gorged with blood.* Let us then inquire, whether this fact may not otherwise be satisfactorily explained. Upon the supposition that the heart is the sole mover of the blood, it is evident, that, as the power of this organ diminishes, so will it project its contents with less force, and in smaller quantities. The aorta, therefore, and all its branches, receiving less blood than usual, have their diameters proportionably diminished, by virtue of that well known law of the arterial system, by which it adapts itself to the ever-varying quantity of blood flowing through it. Thus, the direct tendency of a diminished action of the heart is to diminish the quantity of blood in the arterial system. An increased quantity in the veins, therefore, is the necessary consequence. And as this continues longer in operation, so will the disturbance in the balance of circulation continue to increase, until at length, as in the act of dying, the mass of blood is almost wholly transferred from the arteries to the great veins. Thus, easily, and without the aid of capillary action, may the vacuity of the arteries, and the gorged state of the veins after death, be accounted for. Such action, therefore, we may unscrupulously reject; it being bad philosophy to admit more causes than are sufficient to explain the phenomena.

But, say the advocates for capillary contraction (muscular contraction, I mean,) *if a ligature be thrown round the aorta, so as to intercept the influence of the heart upon the antecedent column of blood, still these phenomena present themselves:* and hence they conclude that the gorged state of the veins must, *in this case*, be owing to the action of the capillary vessels.

Now, admitting the fact here alleged to be true, the inference drawn from it by no means follows, because it is certain that the ligature cannot destroy the momentum the arterial blood had acquired *previous* to its application, and which, together with the tonic or vital contractility of the arterial vessels themselves, now no longer subject to the distending power of the heart, may (for any thing appearing to the contrary) be sufficient to conduct it through the capillaries to the veins. The experiment being made in a vigorous state of the circulation, the force of blood in the aorta and its great branches may be fairly presumed to equal that which the heart in its dying throbs could communicate. So that in reality this objection amounts to no more than a case of ordinary death, in which, as we trust we have already sufficiently shown, the lost balance of circulation is explicable upon principles quite independent of capillary contraction. But by way of strengthening our argument, *we will trace this muscular doctrine to its consequences.* In the experiment under consideration, the arteries, it is asserted, become empty by virtue of the muscular action of capillary vessels. Well, if so, it is clear that such blood must by some means be brought to these vessels, in order that they may contract on it, and propel it onwards. Now the only causes that can properly be assigned for this effect are, the momentum acquired by the blood previous to the application of the ligature, and the tonicity of the arteries themselves, as already stated. I am aware, indeed, that a third cause would, by some, be alleged. They would assert, that

the capillaries empty the great arteries, like so many little pumps, upon a principle of exhaustion, the result of their alternate contraction and relaxation. Effectually to contravert this position, we need only point out the meaning of the terms contraction and relaxation, as applied to blood-vessels. When any such vessel, by a power inherent in itself, suddenly diminishes its size, it is said to contract. This operation completed, the vessel is supposed to become entirely passive, or is left in such a state as readily to yield to the least distending force,—this is called relaxation; and in that state blood is supposed to be impelled into the vessel by what is usually denominated the *vis a tergo*, or, in other words, by the impulse it receives from the heart. The vessel being thus distended, another contraction succeeds. That such is the ordinary import of the words vascular contraction and relaxation, no one, I think, will deny. To talk of relaxation, therefore, as if it implied a powerful resiliency in the vessel itself, enabling it to augment its diameter, and thereby to create a vacuum, is nothing better than a gross perversion of language: it is, in short, to indulge in a speculation unsupported by fact, and alike repugnant to reason and probability. But admitting, for the sake of argument, the existence of such a vacuum, how, I would ask, can it promote the capillary circulation? Is it not in the nature of a vacuum to attract fluids equally in all directions? And if so, the blood lying beyond it would be as much retarded in its progress, as the blood approaching it from the heart would be accelerated. So that, upon the whole, no motion would be gained; and the expedient would fail in producing the end for which it was intended. In the instance before us, then, exhaustion cannot be the method in which the capillaries act, so as to derive blood into themselves from the great arteries; but thither it is brought, as we have already stated, through the influence of its previously acquired momentum, assisted by the tonicity of the vessels themselves. And if this be a just conclusion, if the blood contained in the great arteries be thus conducted to the boundaries of the capillary system, why may not the influence of these causes be supposed to extend yet further? Is there any fact or experiment which indicates their annihilation at this precise point of the circulation? If not, we may with much greater reason believe, that it is continued through the capillaries to the veins, than that these capillaries act by a muscular power, which the most scrutinising inquiries have never been able to detect, and whose existence is a matter of mere hypothesis, at variance with the testimony of our senses. Whatever, then, the real causes of the capillary circulation may be, it is at least obvious, that consequences bordering on absurdity flow from the adoption of the muscular theory; and, as such, it ought to give place to any other doctrine which is not clogged with similar difficulties.

Death by lightning is said to afford a *third argument* in favour of the muscularity of the capillary system. In such instances, the arteries, as well as the veins, are found loaded with blood; which circumstance the advocates of this doctrine ascribe to a sudden loss of muscular power in the capillary vessels. But, assuredly, this cannot be regarded as a decisive argument, unless it can at the same time be proved, that the fact is insusceptible of some other equally good explanation. Now it is certain, when an animal is killed by an electric shock, that all the moving powers of the blood are instantaneously destroyed. The right ventricle of the heart ceasing to beat, blood is no longer propelled into the pulmonary system. In like manner, the blood ceases to be thrown by the left ventricle into the aortic or general system. The tonicity of the arteries themselves, also, that important assistant in transferring blood from these vessels to the veins in ordinary cases, no longer operates. So that the momentum of the arterial blood, at the instant of the accident, is the only remaining power capable of producing such an effect. But since the action of the right ventricle is abolished, blood can no longer find its exit from the veins. In these vessels, therefore, it stagnates, and resists the ingress of arterial blood, with a force which the left ventricle, in a state of vigorous action, could not overcome. Impossible, then, is the supposition, that such an obstacle might be removed by the mere force of a previously acquired momentum; and hence, in all instances of death from lightning, and indeed in all other instances as suddenly and completely destructive of life, an accumulation of blood in the arteries, as well as the veins, ought to take place. This we find actually does occur; and since the fact is as clearly explicable upon the supposition of the heart's acting alone as in conjunction with the muscular power of the capillaries, we may fairly conclude that death by lightning affords no proof that the latter operation is conducive to the business of circulation.

Having now, as I would hope, disposed of the objections to the Harveian doctrine of the causes of the blood's motion, at least so far as respects the muscular action of capillary vessels,—I beg to subjoin an additional remark or two in support of that doctrine. It is now almost a century since the accurate and ingenious Dr. Hales experimentally proved that blood issued from a vein with only $\frac{1}{12}$th of the force it possessed in the corresponding artery; so that not less than $\frac{11}{12}$ths of its original motion must have been lost in the course of circulation. Now to what can this remarkable change in its velocity be owing? Contemplating the large amount of friction it has to encounter, we could readily persuade ourselves that such a cause might produce a very considerable abatement in the blood's motion; but we do not so easily perceive how this extraordinary defalcation should happen, if, as is contended, the capillary system be really a subsidiary source of power to the heart. Without laying any stress, however, on an argument of the

probable or presumptive kind, I will advert to an experiment of the celebrated Magendie, from which he ascertained that pressure on the crural artery of a dog *instantaneously* affected the flow of blood in the corresponding vein, diminishing its force in exact proportion to the degree of pressure. Now, according to the muscular theory, the capillary vessels are a set of muscular tubes, whose mode of action must therefore be analogous to that of all other muscular tubes, such as the intestines, &c. And did any one, I will take leave to ask, ever observe a contraction, commencing at one extremity of the alimentary canal, *instantaneously* propagated through its whole extent to the other extremity? On the contrary, is it not a matter of notoriety, that the peristaltic motion is a *progressive motion*, requiring a distinct and considerable interval for its completion? And so, also, must it fare with the capillaries upon condition that they are muscular; that is, the blood they receive must, on this supposition, require a sensible portion of time for its transmission—a conclusion directly at variance with Magendie's observation. Which, then, of these conflicting statements shall we receive? An opinion founded on a mere hypothetical basis? or the testimony of a consummate physiologist as to an extremely simple fact, and of so palpable a nature as almost to preclude the possibility of error.

It were no difficult matter to multiply arguments in support of the doctrine we have here been endeavouring to establish; but from these we shall at present abstain, hoping at some future opportunity to show what extensive use may be made of it in the explication of morbid phenomena.

From the Lancet.

STRANGULATED EXOMPHALOS IN THE EIGHTH MONTH OF PREGNANCY.

Elizabeth Wright, æt. 31, was admitted into this Hospital on the first of October, 1827. She is a thin woman, has borne seven children, and is now in the 7th or 8th month of her eighth pregnancy. She states that there has been a swelling at the navel from her infancy, and that she has always worn a bandage till her present pregnancy. During her former pregnancies, the part has invariably swelled and become painful between the fourth and fifth month; purgatives have always removed these symptoms until the present occasion, when they entirely failed. On Sunday, Sept. 30, she was attacked with severe pain in the umbilical region, and with vomiting, for which she took pills and castor oil without relief. At the time of her admission there was a large irregular soft swelling at the umbilicus, about two inches in diameter, not very tender and being obviously a rupture, containing principally omentum. The abdomen was neither tense nor painful; the pulse was frequent and hard, the woman was thirsty and feverish, and she vomited occasionally. Castor oil was given, and rejected; injections were administered, and returned unmixed with fæculent matter; 30 leeches were applied to the abdomen, and the taxis tried ineffectually. Mr. Lawrence, who saw the patient at this time, found the swelling very soft, and free from pain, and the abdomen nearly in the same state. Had these points been alone considered, strangulation would not have been suspected; however, the constipation and vomiting showed that the course of the intestinal contents were obstructed, and a portion of intestine might easily be concealed under the soft mass of omentum composing the bulk of the swelling. Mr. Lawrence, therefore, determined to operate immediately, considering the state of pregnancy rather as an additional reason for, than as an objection to, the operation. When the sac had been laid open by a perpendicular incision, carried over the middle of the tumour, a large portion of omentum and a small portion of discoloured intestine were exposed to view. The intestine being returned, and a part of the omentum removed, one or two small arteries were tied, and the wound was brought together with sutures and adhesive straps; her bowels were moved four or five times after the operation, and she slept at intervals during the night. Towards the morning she complained of pain in the umbilical region; there was a little inflammation around the wound, which occasioned tenderness of the parts. The tongue was coated, and the pulse full and frequent; venesection to sixteen ounces; twenty leeches to the abdomen; a drachm of sulphate of magnesia in mint water every three hours.

Oct. 3. She passed a restless night, and is more feverish to-day. Venesection to sixteen ounces; twenty leeches to the abdomen; a drachm of Epsom salt, in the effervescing draught, every three hours; bread poultice to the wound, which appears healthy.

4. She slept better, and is less feverish; the bowels are open, and the tongue clean and moist; pulse 112, and rather sharp. The wound is nearly healed, except at the upper part. Repeat the bleeding to fourteen ounces; continue the draught.

8. She has improved in every respect during the last few days; the tongue is clean, and the pulse slow and soft. This morning a small abscess was opened, which had formed upon the tumour, and discharged a considerable quantity of healthy pus.

19. She continues improving, but complains of weakness. Meat diet.

26. A truss was ordered for her this day, and she left the Hospital soon afterwards.—*St. Barthol. Hosp.*

From the London Medical and Physical Journal.

REPORT OF CASES TREATED AT THE ABERDEEN NEW DISPENSARY, *and communicated by* Alexander Rainy, Senior Pupil.

I. FISTULA LACHRYMALIS.

This complaint has been treated at the dispensary, for the last six months, in a manner

somewhat peculiar. When matter has formed in the lachrymal sac, and it has been found impossible to introduce a thin probe through the duct, by the nose, the enlarged sac has been laid freely open, and a tent of waxed sponge kept in the wound till its edges have become callous. By this time, the sac having contracted, the external wound shows no disposition to heal, when the tent is removed. The appearance of the artificial opening thus formed is not at all disgusting; and persons, who were liable to frequent suppurations of the part, have remained free from them after this treatment, a little matter only passing through the artificial opening, after being exposed to cold, or any other cause which increases the flow of tears, or the secretion from the meibomian glands. Of course, in these cases the duct has not been permanently obstructed. The following case was the one which first gave occasion to the above treatment:

Mrs. ——, aged twenty-eight, had a fistula lachrymalis on the left side, for which the os unguis was perforated, to allow the tears to pass by that way to the nose. This was six years since.

Two years ago, the sac of the right side became inflamed, and suppurated, breaking externally. The opening soon healed, but the same process again took place three months after, the disposition to inflammation becoming so great that it now came on after the slightest exposure to cold, and sometimes an interval of only a fortnight occuring between them. She therefore became anxious for the operation: the physician in consultation, however, advised it to be deferred till after delivery, the patient being in the seventh month of pregnancy; and that, in the mean time, the sac should be laid freely open, and a tent kept in the wound. This was done, and the tent worn for two months; when it was found that the sac had contracted to its natural dimension, and the opening at its edges thickened. The tent, being troublesome, was dropped, and a little clear fluid was occasionally pressed from the cavity, which occasioned no inconvenience; the whole having less appearance of any thing unusual than the other side, where the scar of the last opening was easily observed.

Nothing unusual has occurred since; the external opening being little observable, and so small as only to admit an Anel's probe.

Three cases have been treated in the same way, but the following is the only one which falls within the quarter's report.

Case 2.—Mrs. M—, ætat. forty-five, July 1st, 1827. Has a tumour in the situation of the lachrymal sac, which is extremely painful, having deprived her of rest for the last forty-eight hours. The eyelids of that side are closed from the swelling, and matter can be perceived by the touch. Says she is obliged to proceed to Glasgow to-morrow, and earnestly begs that something may be done to relieve her. Sac to be opened, and tent introduced, with directions to continue it on board of the ship, and for six weeks after.

31st.—Returned two days ago from Glasgow: the sac is now contracted, edges of the wound callous.—Omit the tent.

August 4th.—External opening small, and not to be observed at a short distance. Discharged.

The surgeon consulted in the first case has mentioned, that the same result has happened in a case since treated by him on the same principle.

II. DISEASES OF THE HEART AND AORTA.

Case 1. *Aneurism of the Aorta, bursting externally through the left Mamma.*

July 15th, 1827. — Binks, ætat. forty-eight, a widow, spare habit of body, tall, chest remarkably narrow. Has been subject for the last two years to palpitation, on the smallest exertion.

Nothing unusual, however, was observed till a twelvemonth since, when she complained of difficulty of breathing and excessive paroxysms of coughing. At that time, the pulsation of the heart could only be felt between the fifth and sixth ribs. The carotid artery, however, pulsated very strongly, so as to be seen by the bystanders. Pulse at these times was unusually quick and small. Digitalis and squill removed the first attack.

In October last, she was again affected in the same way: the palpitations had, however, become more distressing: pulsation could be distinctly felt on the left side of the epigastrium. The throbbing of the carotid was less distinct. Relief was again procured by squill and digitalis; thin mucus being expectorated.

Two attacks succeeded, the symptoms being similar, though of longer duration, and yielding less readily to the remedies employed.

For the last five months, she has been constantly attended from the dispensary. The symptoms have been violent palpitation of the heart, perceived both at the epigastrium and (though less distinctly) below the angle of the left scapula; most distressing sense of sinking on the approach of sleep, and startings after it had come on; cough severe, and still recurring in paroxysms; very scanty expectoration; difficulty of breathing only occasionally occurring, and relieved readily by a draught of camphor mixture, with ether and opium, which frequently procured good nights.

This state of the symptoms continued till June last, when the fourth and fifth ribs, at their anterior extremity, were perceived to be more prominent than usual, and gave extreme pain on being touched, however gently. From that time to the present, the fulness has increased till the whole of the left has become distended with it. The cough and occasional dyspnœa are settled symptoms, and the mucous rattle more or less distinctly heard by the unassisted ear.

Two days ago, the anterior part of the tumour was observed to be discoloured, when several layers of adhesive plaster were laid over it. This morning, however, the blood burst out at a large opening, which terminated

existence in a few seconds. After the appearance of the tumour externally, the pulse had sunk rapidly in strength, and a few small bleedings, which had been employed, were obliged to be discontinued, as an alarming state of faintness occurred immediately on opening the vein. The digestive organs continued healthy to the last, and a small quantity of food was relished on the day of her death. A full meal always produced distressing sense of sinking, and was thrown off on the occurrence of the first paroxysm of coughing.

Dissection, 17th July.—Body much emaciated, completely exsanguineous; left mamma purple, with an opening externally, the size of a penny; bulk of mamma greater than in the prime of life. On enlarging the opening into the aneurismal sac, it was found filled with a firm coagulum; a soft membrane lined its internal surface, easily lacerated at the fore part, but firmer towards the bottom of the cavity. Integuments of mamma unusually firm; between them and the sac a layer of coagulated blood, increasing in thickness as it recedes from the outer opening. Cavity, large enough to hold an orange, communicates, by an opening of an inch in diameter, with the anterior of the chest, the upper and under edges of which were formed by a breach (by absorption) in the edges of the third and fourth ribs. On removing the sternum and anterior ends of the ribs, so as to leave the connexion of the external disease with the parts within the chest undisturbed; the opening was found to lead directly to the ascending aorta. This artery had its diameter increased to four inches, internal measurement, at this part; at its rise from the left ventricle, its coats are thickened to half an inch, and its diameter one-half greater than usual. Opposite to the fourth rib, its size and thickness is most increased, diminishing rapidly to where it takes its bend, where, after giving off the carotid, it becomes healthy; and from the left ventricle to its arch, the aorta has bands of a cartilaginous texture, running through its walls in different directions, and on its outer surface appear depositions of coagulating lymph. The heart is considerably enlarged, but particularly its left side, where its coats are very much thickened. Left auricle and ventricle empty. Walls of the right ventricle thinner and paler than natural, and the musculi pectinati of that auricle uncommonly pale, and very thin. The other contents of the chest are healthy. The left lung small. Carotid artery somewhat enlarged in its diameter, and thickened. No other diseased appearances in the viscera.

Remarks.—The above case is valuable as illustrating the possibility of a true aneurism, and still more as exhibiting the complication of that form with the false. There was a tumour in the region of the carotid, with pulsation, which it will be perceived had disappeared for some time before death,—*there being some dilatation, but no aneurism of that vessel.* From the heart to the arch of the aorta, that vessel was enlarged greatly in its diameter; its coats much thickened. An opening at its anterior side communicated with an aneurismal sac, lined by several layers of coagulated blood, and which at last burst outwardly. It is surprising that such extensive disease produced so little disturbance in the system.

Case 2. *Ossification of the Heart.*

Although present at the opening of the body, this case was only seen twice before death, and that not in the character of medical attendant. The appearances on dissection are given first, and afterwards what is known of the previous history.

August 13th, 1827.—John ——, aged twenty-two. *Sectio cadaveris.*—Body considerably wasted, with slight œdema of the belly and lower extremities; skin and conjunctiva of a deep yellow colour. An incision was made from the top of the sternum to the umbilicus: the integuments being dissected back, and the sternum raised, some slight adhesions were separated which connected the pericardium to the sternum, and which had the appearance of being recent, and were easily torn. From four to five ounces of bloody serum was found in each side of the chest. The pericardium and heart occupied a great part of the left side of the cavity, the left lung being completely hidden in this view. The pericardium extended upwards as far as the top of the sternum and below its adhesion to the diaphragm, was five inches from side to side, and four from back to front. From the anterior edge of the upper lobe of the left lung, a strong band stretched across to the contiguous side of the pericardium, of about three inches in breadth, and one in length. A similar band joined the inferior lobe of the right lung to the pericardium. The anterior edges of the two lobes of the left lung were also connected by a strong adhesion, which formed a bridge over the sulcus, separating them. Between the back part of the left lung and the ribs opposite their angles, several stringy adhesions were formed, some of them three inches in length. The lungs otherwise were remarkably sound. On opening the pericardium, an ounce and a half of fluid, similar to that in the chest, was removed. The heart exposed was of natural colour, except some yellow spots which penetrated a small way into its substance, near the apex. A little way to the left of the septum, an irregular cavity appeared, about three lines in length, with puckered edges, and having the appearance of the cicatrix of a recent ulcer. The cardiac veins on the surface of the heart were very large, and distended with blood, particularly those on its under surface. On removing the heart, and cutting into the right auricle, the sinus venosus and proper auricle were of a proportionate size to the rest of the organ: its coats, however, were so thin, as to be translucent in the intervals of the musculi pectinati, which were pale, and farther asunder than usual. The tricuspid valve was strengthened by membranous bands, extending from the insertions of the chordæ tendineæ to the parietes of the ventricle. The sides of the right ventricle

were thin. The columnæ carneæ somewhat pale, and formed a close and complicated network, at the bottom of the cavity. On looking at the left auricle, the walls of the sinus venosus were found to be of a dense membranous-looking substance, a line and a half in thickness, and without a vestige of musculi pectinati, or muscular texture; these, however, were present in the proper auricle of this side. The left ventricle presented nothing unusual, till, on removing its valve, an osseous body was found, the size of a horse-bean, imbedded in its parietes, at the root of the valve. At its outer edge, eight ounces of clear serum was found in the abdominal cavity. The liver of natural colour and size, but somewhat firmer than usual. Spleen small, circular, and firm.

The following are the particulars known of the case, the termination of which is related above:

The individual, from his fourteenth year, had been of a very infirm constitution, and was unable to pursue steadily any employment, having in vain tried several. For the last three years he had been subject to palpitations at the chest, on using much exertion, which, from being feeble and confined to the region of the heart, increased from time to time till the whole of the chest heaved with the motion, and the pulsation was distinguishable at the epigastrium, and left hypochondrium. Three weeks since, anasarca appeared, which rapidly spread over the lower extremities, belly, and back. From the time of its appearance, the palpitations ceased; but the stomach became irritable, rejecting all kinds of food, in any, even the minutest quantity. The appearance of the countenance was anxious in the extreme, and, after the swelling approached the body, the recumbent posture became impossible. Sleep was difficult to be procured, and its approach looked for with terror, startings interrupting it at its commencement. The medical attendants were necessitated, a few days before death, to make small punctures in the scrotum, prepuce, and feet, which drew off a great quantity of water. He sank soon after. During the progress of the complaint, the pulse exhibited great irregularity: latterly, it gave the feel of a fluid passing through a confined tube, and intermitted frequently, defying all attempts to reckon it. He dated the rise of the complaint to a severe pleuritis, which accounts for the old adhesions. Valsalva's treatment kept the disease long in moderation, but latterly he used no depleting measures, and no remedy except digitalis.

Query, was the ossification the original cause of the disease? If so, we presume it must have existed from the commencement. Even at the age of twenty-two, when he died, we imagine the occurrence of such a morbid formation in this organ to be extremely rare.

Case of Suppuration of the Kidney; with Dissection.

August 17th.—Magnus Lister, ætat. fifty, formerly a sailor, latterly a weaver, complains of severe pains in the loins and hypogastrium, with frequent desire to make water, which is red and scanty. Bowels costive; nausea and vomiting. Has a scrotal hernia, which he can return at pleasure. Passed some small stones, of a white colour, by the urethra, a week since. Has occasionally complained of pains in the right ride for three years past, on exposure to severe fatigue; has suffered considerably from fever; and disturbance of the digestive organs, with severe pains in the region of the kidneys and bladder, which generally ends in the passing of small calculi and sabulous particles.—Habeat infusi lini ad libitum.—Injiciatur enema statim.—Warm fomentations to the loins.—℞. Ol. ricini ℥j.; tinct. opii gtts. l. statim.

20th.—Became rapidly worse after last report. The secretions of urine and fæces having failed, notwithstanding the exhibition of diluents and the free use of catharitic medicines. For the last two days was much distressed with hiccup, and latterly nausea and vomiting of dark coloured matters. Died this morning.

Dissection, 22d, seven A. M.—An incision was made from the upper edge of the inguinal ring to the bottom of the scrotum, when the hernia was found to consist solely of omentum, which was more vascular than that in the abdomen, though there was no constriction at the ring. The abdomen being laid open in the usual way, the stomach was found drawn down by the omentum a considerable way; the large curvature opposite the umbilicus. The bowels were of a healthy colour. Some old adhesions were seen between their different convolutions, which separated with the greatest ease. Bladder was found with its coats thickened to nearly half an inch. Its interior was divided into two cavities, each of them capable of containing a walnut, and not admitting of farther distention. The ureter leading to the right kidney was enlarged, so as to admit the fore-finger with ease; its inner membrane was white, pulpy, and thickened. The right kidney was seven inches and a half in length, and proportionately broad; its walls were but half an inch in thickness, and on the lower part of the anterior surface a pit was observed, having all the appearances of a cicatrix; its outer surface had a vascular appearance, but, on being cut into, was paler than usual; its pelvis was found empty. The left kidney was only three inches and a half in length, of the usual figure and colour, excepting at one part where its investing membrane was raised in the form of a vesicle; its walls were of an unequal thickness, at one part being as thin as parchment; on cutting into its cavity, it was filled with pus and pieces of cheesy-looking matter. Body was otherwise sound.

From the London Medical Gazette.

AXILLARY ANEURISM OF THE RIGHT SIDE.—*Operation of tying the Subclavian Artery.*

William Weston, æt. thirty-eight, a stout and very muscular man, was admitted Novem-

ber 28, under the care of Mr. Bransby Cooper. About three months ago, he felt a slight pain and numbness just below the middle of the right clavicle, which extended down the arm to the fingers; this occurred once or twice a week, increasing in severity each time. At the end of a month, the paroxysms had become so violent, that, during their continuance, he was obliged to desist from his ordinary occupation—that of a wood hawker. In nine weeks from the first attack, his attention was directed to a slight fulness upon the upper and fore part of the chest. Sixteen years ago he worked very hard, excavating a dock; he drank freely at that time, but has lived very temperately for the last few years.

Upon examination, a large pulsating tumour was perceived in the axilla of the right side, extending to the fore part of the chest, and producing a fulness about the size of an egg, between the subclavius muscle and clavicula portion of the pectoralis major: the tumour could be traced so far back as the edge of the latissimus dorsi; the base could not be distinctly felt; handling the swelling increased the pain; a very slight pressure on the subclavian artery completely stopped the pulsation in the tumour. The arteries of the arm were uninfluenced by the aneurism, the pulsations at both wrists corresponding, which, however, were unusually feeble. The numbness and pain had become so great, as entirely to deprive him of rest. He was ordered a little aperient medicine, a day or two prior to the performance of the operation, which took place on Tuesday, Dec. 4.

The patient was placed upon a long table, in the horizontal posture,* with the shoulders slightly elevated, the head directed to the left side, the right arm forcibly drawn down, and the shoulder depressed. The integuments covering the clavicle were stretched upon the chest, and the operation commenced by making an incision, about three inches long, which laid bare the edges of the sterno-cleido-mastoideus and trapezius muscles; when the skin, from its natural elasticity, retracted, so as to leave a free opening above the clavicle, exposing the superficial cervical fascia, the platysma myoides being perfectly divided. The centre of this incision was met by a vertical cut, in the direction of the posterior edge of the sterno-cleido-mastoideus. The external jugular vein was distinctly seen on the inner side. The anterior edge of the scalenus anticus muscle was next laid bare by clearing away (with the sharpened handle of the knife) the condensed cellular texture, during which process the omo-hyoideus was exposed, and the artery immediately seen emerging from between the scaleni: it was easily cleared from the surrounding parts, so as to admit of the passage of the aneurismal needle. This instrument deviated from the one generally used, by forming a larger portion of the segment of a smaller circle, so as to occupy much less room. A single silk ligature was passed under the artery, and tied in the ordinary way; the vessel could then be seen pulsating between the heart and the ligature, although previously the pulsations could scarcely either be seen or felt. One end of the ligature being cut off close to the artery, the other was left at the external wound. The integuments were brought together by a single suture, and adhesive plaster, and the right arm and hand were enveloped in flannel. The patient was then replaced in bed, having scarcely lost an ounce of blood; indeed, only one small artery was divided, and which ceased bleeding without being tied. The pulsation in the tumour entirely ceased upon the application of the ligature, and the sac soon became completely empty. The patient expressed great relief. He went on in the most favourable manner till the 7th, when he had a tingling sensation in the arm, accompanied with great pain; at this time, too, he had slight difficulty of breathing, and considerable restlessness: these symptoms, however, subsided, together with the pain in the arm, upon the exhibition of the submuriate of mercury, 1½ grs., opii. 1 gr. Gentle aperients have occasionally been administered, the effect of which has produced more than usual lassitude, rendering it necessary to administer small doses of ammonia, which have always removed the disposition to depression. The wound was dressed upon the fourth day, when it appeared very healthy, and was quite free from pain. Since the operation his pulse has generally been from 80 to 86, varying but very little either in frequency or fulness. The temperature of the limb is not in the least diminished.

December 11. Upon visiting him this morning, we find that he has passed a good night, and is, in every respect, going on well.—*Guy's Hospital.*

* Mr. Cooper here remarked upon the necessity of the horizontal posture, for the entire deprivation of all muscular action, every fixed point being thus taken away.

From the London Medical Repository.

ON THE INSIDIOUS NATURE OF CHRONIC DISEASES, WITH CASES, AND POST MORTEM EXAMINATION.

By J. G. W. Esq. Surgeon, Member of the Phrenological Society of London.

Case I.—*Scirrhous Carcinoma of the Rectum, forming a Stricture attended with symptoms of Intussusception.*—Mrs. P. ætat. 58, of a robust figure and habit of body, has always enjoyed good health, and is the mother of two children, the youngest being sixteen years of age. She states that she never was subject to pain in the bowels or to hernia. About a week ago she ate a little damson pudding, and thinks she swallowed two or three of the stones; for a day or two she experienced a little griping in the umbilical region, but her bowels were perfectly regular and her appetite good up to Wednesday evening, when she was about to leave home, with her husband, in his canal boat, on a voyage from Newport Pagnell, in Northamptonshire, to the

collieries, in Staffordshire. She paid little attention to these transient pains until she arrived at Birmingham, when they had acquired such violence, attended with vomiting, that it became necessary to consult a medical man, as she had had no evacuation from the bowels. Boluses of extract of colocynth and calomel, with a mixture of senna and salts, were prescribed. This failed to operate, and occasioned an increase of the vomiting, with much pain in the bowels. Fomentations were applied throughout the day, (Saturday) with very little relief.

On the Sunday following, October 14th, I first visited her, and found the symptoms aggravated; vomiting incessant; no stools; some difficulty was experienced in voiding the urine; tongue furred and dry; great thirst; pulse 88; skin hot; she has had no rigour from the first. She attributes her sufferings to over-distended bladder.

I, therefore, introduced the catheter, and drew off about two ounces of high-coloured urine, but the pain was not relieved by the operation—℞. Ol. croton, gutt. vj. calomel, g. xxx.; panis, q. s. ut ft.; pil. xij. cap. ij. 2da. quâque horâ donec purg.; and I directed three clysters, each containing ʒj. of assafœtida, to be injected with one hour interval.

October 15th. The pills and the clysters have been given. Not at all relieved. Passed a very bad night; constant and distressing vomiting; no stools, abdomen more tumid; has made water freely; pulse the same. One teaspoonful of brandy to be swallowed when sick. I gave, by a syringe with elastic tube, three aloetic clysters, each containing ʒij. of aloes; also one of gruel afterwards. Continue pil. extr. coloc. c. et calomel, with a powder containing five grains of calomel, every three hours. The warm bath to be used this evening.

October 16th. Symptoms the same, excepting that there is a little more excitement and flushing in the face, pulse 92. At a consultation it was determined to make trial of venesection, as an antispasmodic, and to give one and a half grains of opium afterwards, and to rub in mercury to produce salivation. The VS. occasioned great faintness. Milk, beef tea, gruel, and yolk of eggs, have been severally tried with small quantities of brandy, but every thing is immediately rejected.

17th. The pills were supposed to be rejected, but they remained long enough to be partially absorbed, for they produced sleep, which was almost uninterrupted during the night, as well as ease from sickness, which has now again returned. The pain, which was originally seated on the left side of the navel, is now on the right, with great tenderness. Abdomen is excessively distended; she complains of great tightness and severe gripings; flatulence; heart-burn; bilious vomiting, yellow in colour; pulse 74; tongue furred, but moist.—Emplast. lyttæ ampl. abdomini. Pil. gambogiæ comp. cap. iij. 2da quâque horâ; if vomited, capt. ol. ricini, ʒvj. or brandy and water. I injected with the same apparatus a large quantity of tepid water, but it returned without fæces. Mercurial infrictions to be continued.

18th. The case now appears almost hopeless; passed a very bad night; incessant vomiting; bowels still unmoved; tympanitic; spasms constant; tongue dry; pulse 68; urine continues free; constant heart-burn; vomits a dark green matter; great restlessness. I injected a pint of pure oil, and used considerable force to overcome the obstruction. This clyster remained for some time. To chew a little calcined magnesia for heart-burn.—Rept. the pil. opii (gr. j.) at bed-time.

19th. Passed an easy night, no vomiting these last eight hours. Pulse 60; tongue dry and brown; pain trivial; makes water freely.—Cont. pil. opii at bed-time; cont. infriction of mercurial ointment; cont. brandy and eggs.

20th. Not so good a night; continues to vomit at intervals dark matter, tinged with bile. Pulse 60, regular; tongue dry and brown; abdomen extremely distended. On the supposition that some part of the descending colon might be intussuscepted, I attempted to inflate the lower bowels. I introduced the elastic tube (such a one as is used for the stomach pump) at least a foot in length; she felt it pass up to the navel and move about; having adapted a pair of small bellows, I compressed them with great force several times; on withdrawing the tube a great quantity of air escaped, and with it a little fæcal matter.—Pil. opii to be repeated at bed-time.

21st. Vomiting not controlled; now it is become stercoraceous; extremities cold; eyes everted.—Tinct. opii gutt. xxx. at bed-time.

22d. Pulse 50; black stercoraceous vomiting; hiccup; delirium at intervals; picking the bed-clothes; extremities cold; profuse sweats; mind wavering; impeded respiration. Death took place early on Tuesday morning.

Inspectio Cadaveris.—Body not much emaciated; muscles rigid and well developed, resembling those of a male subject.

The abdominal muscles were greatly extenuated, hard, and contracted, like all the other muscles; indeed the whole system resembled much that of a person I once examined, who died of tetanus. On laying open the abdomen no air escaped, but the intestines presented themselves enormously distended. There were in the small intestines three bands of longitudinal fibres, as in the large, distinctly visible; and many of the convolutions were adherent in this track, upon their surface. The small intestines were six inches round; and the colon, at its arch, in many places ten inches and one nail; in several places the peritoneal reflexion had given way, and the muscular coat protruded in the first portion of the duodenum; the intestine was on the point of bursting. There was no general inflammation, but the vessels were loaded, and dusky in some parts, especially near the cœcum, near which there were four or five damson stones, quite loose, in the intestines, and not in any way obstructing the ilio-colic valve. In tracing the intestines downwards, no obstruction was discoverable until I arrived at the lower

part of the rectum, when a narrowing was most palpable just below the sigmoid flexure, and immediately in juxtaposition hung the left ovary in a state of scirrhus, considerably enlarged, as well as the fallopian tube on the same side; the right appendages were quite healthy, but the uterus was much harder than natural. The rectum being removed was opened, and above the stricture was found distended with fæces, in a harder state than in the other portions of the bowel, and empty below. On slitting up the intestine, its coats were discovered thicker and harder than natural; and, about six or eight inches from the anus, its calibre was so narrow that it would not admit the point of the fore-finger without some force. At this point it was in a state of scirrhus; and, internally, cancerous ulceration appeared to have gone on, as a sort of fungus started from its surface, coated with mucus, interspersed with vessels of a villous appearance. Immense appendices epiploicæ were attached to the rectum, and its coats were imbedded in fat: the mucous membrane above the stricture appeared inflamed, and the whole track of the large intestines, above the obstruction, was loaded with more or less liquid fæcal matter, and gas. The above appearances of the rectum are clearly shown by the preparation in my possession; the liver was slightly tuberculated; the stomach was contracted, and the spleen quite shrivelled up. All the thoracic and abdominal organs were healthy.

This case presents two very interesting points for consideration. The one is, how the chronic disease could have remained in a latent state so long, without the slightest manifestation: the other, how the passage of the fæces was obstructed when the stricture was large enough to admit the point of the fore-finger, even after such various clysters had been tried, and how adhesion should take place between the folds of the intestine without the symptoms of inflammatory fever? On these facts your readers will decide.

Case II.—*Inflammation of the Brain, with Effusion of Blood and Serum into the Lateral Ventricles, arising from a carious state of the Basiliary Process of the Occipital and other Bones.*—J. P. ætat. 19, of a spare but muscular frame, by trade a collier, who, for a series of years, has been subject to scrofula in the cervical glands; also to ulceration of the lachrymal sac, and of the lower palpebra of the left eye. He worked up to Saturday, the 22d of September, when he first complained of febrile symptoms; viz. lassitude, shivering, and hot fits; pain in the head and extremities. Notwithstanding such symptoms, he made two efforts to work this week, but becoming worse, I was sent for on Saturday, September 29th, 1827.

I found him lying on a temporary bed, with his head towards the fire (which is customary in this part of the country,) complaining much of giddiness, vertigo, pain in the head, back, and right side, which on pressure was very tender; the expression of his countenance was like one in an advanced stage of typhus fever; he was scarcely capable of walking across the house; his tongue was dry and brown; his pulse 100, irregular, and intermitting; his respiration rather laborious; delirium during sleep; vomiting had been frequent during the week, and bilious diarrhœa accompanied it; he was very fretful, and his behaviour sullen; his bowels were now costive, and his sickness less urgent.—℞. Calomel, gr.iij. pulv. rhei gr. xv. ft. pil. iij. s. s.; pulv. effervescent. iv. suig. Low diet.

September 30th. He was no better; pulse 90, intermitting; his tongue moderately moist; bowels have not been moved; expressed a great wish to have purgative medicine given him.—℞. Calomel, gr.xx. extr. coloc. c. ℈ij.; m. ft. pil. xij. capiat ij. 2da. quâque horâ donec purg.

Oct. 1st. Much worse; stupor has increased, but he answers questions tolerably when roused; pulse 60; tongue more dry; complains of severe pain in the head; bowels moved twice; black stools.—VS. ad ℥viij. empl. lyttæ nuchæ. ℞. Calomel, ℈ij. divide in chart. iv.; capt. j. ex theriac. vel gelatina, 4ta quâque horâ.

2d. Much faintness after the bleeding, but afterwards the pulse rose, and is now 80; great stupor; feet and arms cold; no stools.—VS. ad oj. emplast. lyttæ ij. cruribus. pulv. calomel, iv. (℈j. suig.) cap. j. 6ta quâque horâ ex gelat.

3d. Apparently much worse; feet and arms quite cold; countenance more pallid; eyes sunk and everted; pulse 60; tongue moist; gums swollen; complains of soreness of the teeth; fœtor of the breath; he is evidently under the influence of mercury; bowels moved once; black stool; answers questions more rationally, and is not so deaf. The skin has been throughout dry and scurfy. The urine has been very high coloured and scanty, but voided with consciousness. The sensibility much blunted; the skin can be pinched without pain. Finding the depletory plan with counter irritation fail, in addition also to the action of mercury, I determined to change the treatment to one of a stimulant nature. I ordered a little brandy and water to be given; hot bricks to be applied to his feet and hands.—℞. Sps. æther nitr. ʒvj. mist. camph. ℥v. m. capt. cochl. ij. larg. 3tia quâque horâ; calomel ʒss. to be taken at bed-time.

4th. Much the same; delirium during sleep; frequent fainting fits; collapse appears to be taking place; cold extremities; pulse 60; tongue dark in the centre, but moist at the edges.—℞. Ammoniæ carb. ʒiss. syrup et magnus. carb. q. s. ut ft. pil. xviij. cap. iij. 3tia. quâque horâ. ℞. Ammonia carb. ʒss. mist. camph. ℥vj. m. capt. cochl. ij. larg. 3tia quâque horâ.

5th. Insensibility increased; could not be kept in bed; phrenitic furor; constant jactitation and screaming; active delirium; was sick once after the medicine; several of the doses were followed by delirium tremens, or a sort of trembling which almost amounted to con-

vulsions. Pulse 48; no stool; tongue covered with black sordes; blood oozed from the gums.—Pil. calomel et jalap. xviij. cap. iij. 2da. quâque horâ.

6th. Quite senseless; constant moaning and raving; bowels have been moved, and the stools were not involuntary; has passed his urine naturally throughout the attack; feet and arms cold. There appeared so little chance of any good being effected that no further medicine was ordered. He died the next day with convulsion.

Inspectio Cadaveris.—I was only allowed to inspect the brain.

On opening the cranium, the vessels of the dura mater attached it closely to the bone; the veins of the pia mater were gorged, and the sinuses remarkably full; there was no change in the membranes, except increased vascularity. On slicing the brain it was very full of bloody points; the lateral ventricles contained about four ounces of limpid serum; at the bottom of each there was a stratum of coagulated blood of considerable thickness, which, traversing the whole inferior surface, descended through the foramina of Monro, into the third ventricle, which was full of coagulum. The fourth ventricle was distended with coagulum alone, and the spinal cord was so much altered in structure about the corpora olivaria and tuber annulare, that it could not be traced; it became more healthy at the lowest point at which it could be reached with the scalpel from the cranial cavity, where it assumed the white colour; but above this point to the tuber annulare, it was of the colour and consistence of a carrot poultice. There was a carious state of the internal table of the basilar process, into which the scalpel penetrated with freedom. A probe passed easily through the ulcerated opening, mesially to the orbitar plate of the sphenoid bone, and externally to that of the ethmoid, into the posterior nares, where caries also existed, but time would not allow any further examination either of this or other parts.

In reviewing the progress of these symptoms it appears the brain was the original seat of the disease, and that the disordered state of the stomach and bowels was merely symptomatic. The reciprocal sympathy of the brain and liver was the cause of its over excitement in the first instance, and in proportion as the functions of the former declined, those of the latter became abolished, since the scruple doses of calomel failed in exciting it to action. When, however, the constitutional effect of mercury became apparent, it certainly did produce a beneficial change, and it is the more surprising it should, considering the malignant nature of the disease. For a short period, the mind recovered its powers; the hearing of the patient was more perfect, and many other symptoms were moderated in their severity. It is quite uncertain at what period the cerebral inflammation commenced, most probably it was recent, and the result of contiguous disease. If a physician of the old school had visited this patient at first, I have no doubt he would have pronounced it to be a case of typhus in an advanced stage, in which there existed a tendency to putrescency of the fluids, which, in other words is, perhaps, better expressed by a tendency to death; for as to supposing a taint of this kind to pervade the frame it is most unphilosophical and absurd, and yet I have heard a physician, of the year 1827, say seriously, that he believed there did exist a putrescent state of the fluids in such cases, and he had the greatest reliance on æther and camphor julep or opium with bark and a liberal allowance of wine; but with what success I know not. The above history of symptoms and morbid appearances shows the folly of trusting to such remedies.

From the Philosophical Magazine.

ON THE ORIGIN OF THE POWER OF SUSPENDING RESPIRATION, POSSESSED BY AQUATIC MAMMALIA AND BIRDS. By Lawrence Edmonston, Esq.

To determine the nature and conditions of that power which certain species of aquatic animals possess of suspending respiration for a considerable time, has long been an interesting object of physiological investigation; but the most accurate observations and ingenious experiments seem hitherto to have failed in removing the obscurity in which this singular phenomenon is involved. Can this have arisen from the erroneous direction in which research has been conducted; or can it result from the insurmountable difficulty of the subject! Has the obvious suggestion been sufficiently attended to, that this anomaly of respiration may constitute one of those ultimate facts in the laws of vitality, which, in its nature, may be independent of peculiarity of organization?

We observe certain diving animals that breathe through lungs, as whales, seals, and water-birds, remain long under water at one time, and not merely in a state of quiescence, but often expending great muscular exertion. We know that a much shorter period than this, without respiring, must be necessarily and immediately fatal to land animals similarly formed; and we are then too hastily disposed to infer, that this singular faculty which aquatic animals possess, must depend on some undetected peculiarity of structure. The problem was supposed to have advanced towards solution, when it was asserted that, in aquatic animals, the foramen ovale remained open, and that in them there was something analogous to fœtal circulation.

But, in the first place, it is unproved that in them the foramen ovale is oftener open than in land animals; and, in the numerous individuals of the two species of seal (*Phoca barbata* and *P. vitulina*,) which I have dissected, I have never found it open, but in fœtuses. But, secondly, though this were the fact, it affords no solution of the question,—of the faculty which these animals possess of supporting life, not merely like the fœtus, with the external senses dormant, and supplied with oxygenated

blood through the medium of the mother, but in all the play and vigour of their faculties, without the action of the lungs or the access of oxygen. The foramen ovale remaining open may cause less blood to circulate through the lungs, and more to be thrown on other organs; but the fact by no means accounts for the animals being able to sustain vigorous and perfect life, while venous blood must be circulating through the brain, and the vital function of respiration totally interrupted. If it be conceded that provisions may be found, in the increased size of the liver, spleen, or veins of the abdominal viscera, for receiving an additional quantity of blood, diverted from the lungs during the suspension of respiration, still this points out only a change in the distribution of the circulating fluid.

It can hardly be assumed that, the moment the animal dives, those processes, which exhaust the blood of its oxygen, are interrupted; for still, at the moment of suspending respiration, much venous blood must necessarily be existing in the circulation. And can we suppose that, until respiration is renewed, the venous blood remains in the pulmonic system without being carried to the systemic heart? Such an hypothesis, not more visionary than some others, only, like them, multiplies difficulties: it supposes, for instance, a power of suspending the processes which exhaust the blood of those vivifying principles which it receives from respiration. It supposes the pulmonic and systemic hearts to be, not merely in function different, but in action separate from and independent of each other. It presumes that the left ventricle contracts on vacuity, or that the aorta and its tributaries can, at the will of the animal, become substitutes for the action of the heart.

Can we assume that some other organ is vicarious of the function of the lungs, analogous to what we observe to a certain extent to obtain in some secretory functions, as those of the skin and kidneys; or that the system enjoys the power of accumulating an additional stock of oxygen to supply its diving exigencies? Or can we imagine that the liver, or any other organ, deprives in a great measure the venous blood of those qualities which render it so deleterious to life in terrestrial animals, when carried through the arteries to the brain, as the experiments of Bichat especially, and of other eminent physiologists, luminously demonstrate? To all these suppositions the same general objection applies,—that they are not only entirely destitute of proof, and inadequate to the solution of the difficulty, but multiply others equally unaccountable. While, therefore, the most minute and laborious anatomy has failed to unravel any peculiarity of structure adequate to account for this phenomenon, the doubt naturally arises, whether, in every case of difference or modification of function, we are entitled to presume difference of structure; whether the faculty in question may not be one of those modifications of the vital principle independent of tangible peculiarity of organization? And, under this impression, the hypothesis which appears to me to be the simplest, and to be supported by analogy, is, that the conditions of the nervous systems of aquatic animals are such that venous blood requires a much longer period to circulate through their brain than in that of land animals, to produce the same deleterious effects. Why should it be matter of surprise that the brain of aquatic animals should have peculiar relations to certain fluids circulating through it; or that their nervous system should be less or more susceptible of sedative or stimulating influence? Different animals, and even different organs in the same animals, are very differently affected by similar causes; and in such cases we do not always necessarily presume difference of structure. Is it even wonderful that the excitability of aquatic animals should be such as to render them unable permanently to bear the same highly oxygenised blood as land animals; much in the same way as we suffer, and should at length die, by breathing air in which there is more than its usual proportion of oxygen? Different species of terrestrial animals require, *cæteris paribus*, unequal quantities of oxygen; and even different individuals of the same species, both in health and disease, are dissimilar in this respect.

Why may not the natural and healthy state of the blood in aquatic animals have a tendency to the venous, as that of terrestrial animals has to the arterial standard? And this, indeed, I believe to be the fact; for, in all amphibious mammalia and birds which I have examined, the blood has much more of the venous than arterial appearance. If this fact be established by a sufficiently ample induction, it would seem decisive of the question; and it would furnish a satisfactory reason why aquatic animals decline and at length die, when placed in situations where they are long deprived of the power and the necessity of diving.

I have also observed, that if seals, after remaining on the rocks for an hour or two, are killed before returning to the water, the blood is more florid than under opposite circumstances; and that, after long reposing on land, and then betaking themselves to their native element, they in no instance, when they first dive, remain so long under water as in most other occasions. These facts may be obviously accounted for by supposing that respiration in these situations being longer continued without interruption than usual, the blood had become more highly oxygenised; and that hence the brain, being temporarily more highly excited, could not at once bear so long a continuance of the venous influence. I have repeatedly ascertained that the dark venous blood of the seal, when exposed to oxygen, as speedily assumes the arterial hue as that of any other animal.

To a certain extent, also, this capacity of suspending respiration is under the influence of habit, as we see exemplified by those individuals, even of our own species, engaged in the pearl fisheries. And moreover, this faculty, even in aquatic animals, is limited, and

differs in the different species; for beyond a certain period they, like land animals, are unable to remain under water. I have seen seals taken in a net, and, when not allowed to come to the surface to breathe, life became extinct generally in less than a quarter of an hour. In this case, it is true, the violent struggling to get loose would naturally abridge the period during which they could remain under water in a tranquil state, which I should believe to be somewhere about twenty minutes.

The young of the great seal, like the young of the other species of Phoca, is brought forth on land, and must remain there a month or six weeks before it can live in the water. If before this period it be thrown into the sea, it exhibits as much anxiety and awkwardness as a young dog, and cannot remain longer, without inconvenience, under water. The young of the common seal, on the contrary, follows the mother to the water immediately it is born, and swims and dives with ease and perfection; a difference so strongly marked, and so decidedly established, as, in my opinion, sufficient to constitute, among others, a most important feature of specific distinction between them.

With respect to whales, I have been often assured by intelligent Greenland shipmasters, that they have been frequently known to remain upwards of an hour under water; and this also accords with my own observation. The difference, therefore, in this faculty, which we remark in different kinds of aquatic animals, and between these and land animals, seems more to consist in degree than in kind.

If a land bird, as a crow or a pigeon, be thrown into the water, even while the head is kept up, it is as speedily *drowned* as a cormorant under it. For this fact we can give no other adequate solution, than by referring it to some peculiarity of the nervous system. It may, indeed, be argued that the cause of death in this instance results proximately from the spasmodic closure of the glottis, produced by the shock of immersion. But why should this occur in the land bird more than in the cormorant?

Not only is the quality but also the quantity of blood in aquatic animals different from that in land animals. In the former, the quantity is much greater in proportion to their size. In whales and seals, for instance, it is excessive; and their capacity of great and continued muscular exertion is also strikingly conspicuous. Can this depend chiefly on the different quality or increased quantity of the vital fluid; or on some particular condition of the nervous energy?

On a review of what I have here advanced on this subject, it appears to me that we may be justified in assuming that the nervous system of aquatic animals breathing through lungs is so constituted, that the venous blood requires a much longer period to circulate in the brain before it produces death, than in land animals. That the natural and healthy state of their blood is *sub-arterial;* and that it is not necessary, in accounting for the superior power which they possess of suspending respiration, to presume any peculiarity of organization.

These views I have long entertained; and they are founded on an ample experience of many years, both as a zoologist and a sportsman, in situations peculiarly favourable for accurate observation on the economy and structure of aquatic animals.

From the Edinburgh Medical and Surgical Journal.

ESSAY ON THE TREATMENT OF CARIES, WITH REMARKS ON THE DISEASES OF BONE IN GENERAL.

By John Inglis Nicol, M. D. Member of the Royal College of Surgeons, London, Member of the Faculty of Medicine of Tubingen, and one of the Surgeons to the Northern Infirmary at Inverness, &c. &c.

In the early or acute stages of the simple forms of diseases of the bones, enlargement of the vessels, and the other marks of inflammation, are conspicuous characters. The periosteum commonly thickens, and is not unfrequently accused as the origin of the mischief. Suppuration follows; the matter works its way among the soft parts towards the surface, and is discharged by one or more openings, which sooner or later become fistulous. This discharge continues perhaps for years, longer or shorter, according to the situation and extent of the disease. The constitution, if not previously impaired, ultimately gives way. Much of the bone dies; and unless the powers of nature, or the strength of the constitution, aided by the usual remedies resorted to in such cases, be sufficient to throw it off; or if manual assistance be not successfully interposed, hectic comes on, and gradual exhaustion follows.

In the more complex diseases of the bones, or those of the osteo-sarcomatous character the structure becomes altered by inflammation sometimes, though not always, of specific origin. Enlargement takes place, and the osseous substance degenerates into a mass, somewhat analogous to cancer,* being usually preceded by similar lancinating pains, which become more acute or severe, as the disease advances. This is sometimes rapid, sometimes slow. In its progress the periosteum, ligament, muscle, tendon, vessel, nerve, in short every thing it approaches, become involved in the diseased action. All become a homogeneous mass, which is sometimes hard, sometimes soft, or often both textures are to be found existing together. The skin ulcerates, and the uncovered tumefaction exhibits an irregular, cancerous surface. As hectic advances, the strength gradually diminishes, and the patient dies. In some cases, however, the morbid enlargement is confined entirely

* In this country, as well as in other places, most tubercular formations of malignant character are usually designated by the appellation of cancerous.

to the bone itself, the osseous growth simply by pressure causing the absorption of the soft parts, which impede its progress, and the bones themselves are equally compelled to give way under similar circumstances. This is well exemplified in their absorption from the pressure of large aneurismal tumours. All the bones are liable to these malignant affections; but they are found to occur most frequently in the bones of the face. Tumours of the antrum are very common; and whether the complaint originates in the bone or investing membranes, the former invariably participates in the morbid action as the disease advances.

Scrofula, sibbens, syphilis, as well as several other diseases of the whole system, produce considerable changes in the bones. In a case of tubercular sarcoma which fell under my observation, the bones of the scull were studded, both on the inside and outside, with grayish pulpy patches, having osseous radii shooting up through them, the tables being entirely absorbed, and the diploe only left in the parts thus affected. Diabetes mellitus in its latter stages produces a remarkable change in the alveolary processes. They become carious, the gums spongy, and the teeth fall out.* Several such cases have come under my notice.

The general affections which more particularly refer to the bones themselves may be comprised under the terms *Mollities*, *Rachitis*, *Fragilitas*, and *Exostosis*. But as these diseases are, comparatively speaking, of rare occurrence, and little under our control, I shall for the present confine my observations to those in which our art can be interposed with advantage.

Nodes or *Tophi*, *Caries*, and *Necrosis*, are the affections which most frequently come under the management of the surgeon. These may result either from injury done to the parts, or from a morbid condition of the system; and where there is no evidence of the one, it is legitimate to conclude that they originate in the other.

In the earlier stage of their syphilitic affections, they are usually overcome by general treatment alone; not so when ulceration has taken place. The constitution already impaired, becomes more so under the continuance of local irritation; and not unfrequently resists every remedy or application which the healing art can devise. But perhaps still greater inveteracy exists in those of scrofulus character; and the practitioner, disappointed in his attempts to remove the former, is often disposed to attribute his want of success to the taint of the latter. Most of the cases of caries or necrosis which I have seen, whether preceded or not, were always accompanied by morbid irritation of the constitution, even where the health might be considered good, and these affections had become habitual. There was an evident languid peculiarity of expression, which conveyed to the mind an impression of the existence of this irritation, and which certainly does not always depend on scrofulous diathesis, as it is often found to disappear almost immediately on the removal of the part offending.

Those affections, which may be considered as purely scrofulous, sometimes appear to originate in the bone; but several other textures remotely situate are attacked successively with similar enlargement and ulceration. And it is highly probable that a like disposition is generated in the system, by the long continued irritation of an ulcerous or necrosed bone, resulting from simple injury.

Cases of this kind are very common among the poorer classes of society. They seldom seek assistance under fluctuating expectations of amendment. They put off from day to day, until their complaints have resisted the powers of the constitution. In these circumstaces the discharge is sometimes less, sometimes greater, varying with every change in the part, which either accidental circumstances or the progress of the disease may produce. The variety of parts affected, their situation and extent, may all preclude much expectation from local management in this state. General remedies alone are relied on, but hitherto with very limited advantage. Nature, however, interposes her influence in some cases deemed utterly hopeless; and when the resources of art have been in vain exhausted, her efforts alone apparently effect a recovery. These cases occur but seldom, and the difficulty with which such ulcerations are found to heal, or the dead parts to be thrown off, are enough to limit our expectations from the powers of nature alone. For although in a few cases the healing process may go on steadily enough, yet no surgeon of experience can justify himself in an entire reliance on a spontaneous cure.

The treatment of such cases has hitherto been but little influenced by the investigation of the causes from which their several varieties have been supposed to originate, or by knowledge of the structures which they had assumed. For ages past the character of the remedies have been pretty much the same; and it is to be regretted that the changes which these diseases undergo have been more successfully examined than the means of averting them pointed out. Observations of alleged causes and minute details of structures, with the exception of those of syphilitic origin, seem thus of little importance in regulating their management in the diseased state. If the affection be presumed to be constitutional, the constitution is attacked; if considered local, local remedies are used; and every effort is made by manual interference to remove it entirely, if at all practicable. The great bulk of failures, however, appear to have arisen from extreme reliance on the one, while the

* This is not a uniform result. When it takes place, the process seems to be one of absorption, in which the vessels of the lining membrane gradually destroy the connexion between the alveolus and the tooth, while the alveolus itself is successively wasted or consumed.—Ed.

other was indifferently attended to, or neglected altogether. Both seem indispensably necessary, and I feel the more confirmed in this opinion from the want of success in the earlier part of my own practice; while, by the subsequent happy combination which I am about to describe, and which I have now been using for upwards of fourteen years, cures have been effected under the most unpromising circumstances.

Reflecting on the rapidity with which syphilitic affections of the bones give way under the use of mercury and sarsaparilla, I was induced to try their effects on osseous diseases of different origin. But it was not until I had combined active local treatment with the constitutional management, that I had the satisfaction of realizing my expectations. The topical remedy which I have hitherto found most successful, is a rod or pencil of lunar caustic, conveyed in every case to the surface of the diseased bone.

The cases which I am about to relate, are offered to the profession without the least pretensions to novelty, in so far as regards the remedies employed. The success of their application alone has a claim on its attention. And unless I may be considered to have fallen into a common error, of attributing to them that which has been exclusively the work of nature, I am not without hope that the same mode of management may be found equally successful in the hands of others,—a hope which I rejoice to say has, in some measure, been confirmed by the communications of several professional friends who have tried it, on my recommendation, with similar success.

Case I.—A gentleman, a native of Scotland, while leaping a ditch in the West Indies, sprained his right foot. The usual remedies were applied, and he got apparently well. Shortly after he perceived a slight tumefaction over the upper and inner surface of the metatarsal bone of the great toe. He went about as usual, occasionally submitting to the leeching, embrocations, and blistering prescribed by his surgeon, neither of which were productive of the slightest benefit. The tumour increased, and he walked lamely. Becoming alarmed and anxious, he requested further assistance, and a consultation was held; the result of which was a recommendation to return to his native country and have his limb amputated. He embraced the earliest opportunity of carrying the first part of this advice into effect. On his arrival he placed himself under my care. I found a tumour, of rather diffuse character and irregular shape, about the size of a large fig, over the middle part of the metatarsal bone of the great toe. Part of it was firm and part elastic, conveying the impression of both solid and liquid contents. It was always increased by walking, was not painful on pressure, and the integument was of the natural colour. He walked with difficulty, always putting the side of the foot to the ground. It had continued pretty much in the same state for several months. His general health was good.

I applied a bandage, and in a few days the tumour was so much reduced as to enable me to imbed my finger in a deep sulcus in the bone, thus leaving no doubt of its being the seat of the disease. The bandage was discontinued, and the tumour soon acquired its former size. A trocar was introduced into the softer part, and about a table-spoonful of a thin brick-coloured matter, with small whitish flocculi, similar to what we see discharged in evacuating suppurated scrofulous glands of some standing, came away. To give free vent to this the opening was enlarged with the knife, and a fungated lobular growth was discovered sprouting from the corroded bone. It seemed weakly organized, some of its limbs having a semitransparent ash-coloured gelatinous appearance. The contiguous bone was so soft as readily to admit the probe to pass through it. Excision of the parts was proposed but resisted. In this state of things I passed *a rod of lunar caustic* of the usual size into the opening, in the direction of the fungus, touching the diseased bone at the same time, and confined this application *to one particular point.* This was repeated daily in the same spot, twirling the caustic between thumb and finger two or three times at each introduction. In a few weeks the tumour gradually disappeared on the inside. A part of it however could be distinctly felt, extending to the contiguous metatarsal bone. A small incision was made above, towards its outside, and the caustic was introduced here also to the depth of half an inch. Violent inflammation of the whole foot succeeded, but was subdued in the course of a few days under the use of antimonials, aided by fomentations with infusion of poppy capsules. The caustic was again introduced as at first, and no inflammation followed. On several occasions, however, I attempted a more free use of the escharotic, with the view of rapidly destroying the morbid growth; but the inflammation which succeeded each of these trials was so violent that I was obliged to desist, and confine its use to the manner already detailed. The fungus was observed gradually to diminish, but the general health became affected. One pound of compound decoction of sarsaparilla was now given daily. The foot was fomented over the part affected morning and evening, and the caustic applications continued as formerly. In a few weeks not a vestige of the fungus could be discerned. The last made opening was permitted to close. The discharge from the other became more healthy, and the parts firm. The small opening at which the caustic was first introduced filled up, and latterly it could not be inserted without some violence. The vigorous process of nature at length resisted it entirely; the parts healed up, leaving a deep furrow from the absorption of the bone; the perfect use of the limb was restored; and during the whole curative process not a particle of bone was observed to escape among the discharges.

Case II.—A young gentleman, about 16 years of age, having over-exerted himself in

running, was seized with inflammation along the right shin, extending towards the knee. The surgeon who attended leeched and applied evaporating sedative lotions, by which the inflammatory process was in a great measure subdued. Ulceration however followed some time after along the flat upper part of the tibia; and the integuments gave way *in two* places, about the distance of an inch and a half from each other. The discharge became limited and unhealthy; the upper end of the tibia enlarged; the knee excessively pained; and the general health bad. Leeches and evaporating lotions were again applied over the knee without any benefit, and diaphoretics were also freely administered without any relief. The case becoming alarmingly retrograde, and the parents anxious, I was called in. The knee was much swollen, and the leech-bites had become vesicated, presenting the appearance of pemphigus. The whole upper end of the tibia, and for some inches downwards, was evidently enlarged; its anterior tubercle projected unusually, and was soft, but not tender to the touch. The orifices of the ulcerations previously described, had enlarged to nearly an inch in diameter, communicating freely with each other, and exposing the periosteum, which was glairy, and discharged a thin sero-gelatinous rather than sero-purulent matter. Hectic had existed for some time, and the strength was much exhausted. The tibia was now pronounced in a state of extensive disease internally, and the treatment completely reversed. An incision with a scalpel was made on the outside of the enlarged tuberosity, and a rod of caustic introduced close to the bone. One single point of the periosteum at each of the ulcerations below was touched in a similar manner. Fomentations of poppy capsule were applied two or three times daily; four ounces of *Decoct. Sarsaparillæ comp.* were given morning, noon, and night; and from half a grain to a grain of opium exhibited two hours after each dose of the decoction.

In twenty-four hours, tranquillity was restored to the limb. In three days the hectic fell off. This plan of treatment was continued, substituting for the opium as many tea-spoonfuls of the following mixture, as the stomach could bear without sickness or nausea.—℞ Antim. tartarizat. gr. iv.; solv. in aq. cinnam. ℥viij.; tinc. opii ℥i. M. The swelling in the knee disappeared; that in the bone diminished; and two thin circular films, evidently separations from the outer lamina of the tibia, were discharged at the openings. The ulcers turned healthy; but as they healed, absorption of the bone underneath became evident, especially at and about the points to which the caustic was applied. The opening at the tuberosity was permitted to heal up, but the caustic was steadily continued at those below. A deep longitudinal rugged sulcus remained in the bone, and the caustic, which now could not be introduced without violence, was abandoned. A very small oozing of matter was observed occasionally at the deeper pits in the furrow, where the escharotic had been applied; but its subsequent use prevented further mischief. In about four months from the time I first saw him, he was perfectly whole; and is now a graduate in the profession.

Case III.—An officer in the British army, while serving in the peninsular war, received a gun-shot wound in the leg. The ball passed through the right tibia, high up, and lodged in the inner splintered fibular side of that bone. A probe could be passed through the wound directly to the ball. I proposed its extraction, but the army surgeons, and Sir Astley Cooper, to whom the case had been submitted, having expressed a different opinion, my proposal was not entertained. He walked lamely, and occasionally suffered great pain, which was relieved by immersion in tepid water, low diet, and purgatives. For several years he went on in this way; the ball shifted its position, and the discharge, which always continued more or less, sometimes nearly dried up, but was immediately succeeded by severe inflammation and increase. On one of these occasions the matter was discharged lower down, and the upper orifice healed up. At this time the relief from the topical applications was indifferent, and very tardily procured. Constitutional irritation came on; his general health declined; and numerous external and internal remedies were used without much advantage. Being strongly advised to try the effects of a mineral (sulphuretted) water in this neighbourhood, I again saw him on his way thither. His general health had suffered greatly, and although there was nothing very remarkable in the appearance of the affected limb, beyond what has already been detailed, he described the torture which he occasionally experienced, as being peculiarly distressing. I recommended the use of the caustic, and fomentations, with the decoction of sarsaparilla. It was some time after he had commenced drinking the mineral water, and discovered its inefficacy, that he was prevailed upon to adopt them.

The caustic was introduced at the fistulous opening to the depth of a quarter of an inch only, and daily repeated. Fomenting before each application, and compound decoction of sarsaparilla to the extent of six ounces was taken morning, noon, and night.

The relief was immediate; the fomentations and sarsaparilla were soon given up, but the caustic has been continued with comfort ever since. He now walks with little lameness, but the orifice still discharges some matter, and probably may continue to do so while the ball remains in his leg. His general health is good, and he considers himself comfortable from his knowing the means of relief, should he require them.

Case IV.—A young man, a carpenter, falling through the scaffolding of a house, received a contusion on the right leg, a few inches above the outer malleolus, not so severe, however, as to prevent his resuming his work.

About a month thereafter the parts inflamed

and swelled. Suppuration followed, but six months elapsed before any outward discharge took place. A sluggish ill-conditioned ulcer was found, which soon assumed a progressive character, the upper extremity cicatrizing, and the lower extending farther down towards the ankle. Various applications were tried, but the ulcer was not healed.

The formation of an abscess over the instep became evident, and the matter discharged itself through several openings, which soon became fistulous. In this state he was admitted into the Northern Infirmary. The foot was œdematous; the fistula discharged ill-conditioned and highly offensive matter; the ankle-joint seemed free from disease, and the general health was still good. The outer malleolus and tarsal bones were discovered by means of the probe to be in a carious state. The foot was ordered to be fomented three times in the day; a pencil of caustic to be introduced at each of the fistulous openings daily; and he was placed upon full diet. Under this treatment, some of the sinous openings healed up, but others broke out, and he continued pretty much in the same way for several months, when his health being good, and the foot looking tolerably well, being kept improving under the steady use of the caustic, he was recommended to go home for change of air, and to manage exactly as he had been treated in the Infirmary.

Inattentive to the injunctions given him, his foot got worse, and he returned in about four months thereafter to the Infirmary. His general health was now bad; his foot had an ugly matted appearance, and was increased to double the natural size; numerous fistulous openings occupied the upper part, leading to the carious tarsal and metatarsal bones. There was little motion in the ankle-joint, every attempt at which was accompanied with excessive pain. The caustic and fomentations were resumed; turnip and effervescing poultices were applied; opium and full diet were given; but in despite of every thing, the enormous diseased mass seemed to get the better of his constitution. A consultation was now held, and amputation pronounced necessary to save his life. Upon repairing to the ward to make the communication, symptoms of amendment were evident; the openings had become clean, and the ulcerations looked more healthy; the system was less irritable, and the operation was for a time superseded.

No alteration was made in the treatment; the caustic being regularly and steadily continued, together with the fomentations, and the occasional use of poultices, the latter being only applied to such parts as exhibited marks of inflammation. The fistulous openings closed up, one after another, his health continued steadily to improve, and in about three months he was able to walk a little. He left the hospital with one or two of the openings still discharging; but by continuing the same treatment he very soon got perfectly well, and able to resume his work. A few small pieces of bone were observed to come away during the whole progress of his complaint; but the absorption of the bones affected was very considerable. I had the satisfaction of seeing this man a few days ago after walking a distance of ten miles. I examined his foot very particularly. It was much smaller than the other, and the seat of the disease presented an extraordinary appearance of elevations and hollows from absorbed bone, which had never been regenerated.

Case V.—A military gentleman while shutting with his left hand a door, his back turned towards it at the time, felt something snap at the left elbow joint. In half an hour after, the most excruciating pain supervened immediately above the inner condyle of the humerus. There was no swelling nor discolouration of the skin. A bandage was applied, which was kept constantly wetted with a solution of acetated ammonia and laudanum. The pain subsided, and nothing further was observed. In a few weeks he joined his regiment, but shortly after was attacked with the most severe rheumatic pains in the head, legs, and arms, and especially in the seat of his former pain at the left elbow-joint. For these symptoms he was subjected to courses of sarsaparilla with mercury; drank chalybeate water; and had many other things given him with intermitting benefit. The elbow-joint became stiff, and was repeatedly blistered, without any abatement of pain. In this way he was afflicted for nearly two years. Having obtained leave of absence, he returned home. The frontal bone over the left eyebrow was now much thickened, and tender to the touch. The lower end of the left humerus was enlarged about the size of the fist. The ends of the fore-arm bones appeared healthy, but very little motion of the joint was admissible, from the obliteration of the humeral fossæ, by the altered structure of the bone; which, by his own account, was unquestionably making progress, and had attained a considerable size before it was discovered by the regimental surgeon. The health was bad, and the rheumatic pains very distressing.

He was ordered four ounces of compound decoction of sarsaparilla, morning, noon, and night; and as many tea-spoonfuls as the stomach could bear of an antimonial mixture, similar to that prescribed in case second, two hours after each dose of the decoction. A small incision was made with a scalpel, in the most prominent part of each condyle of the diseased humerus down to the bone; and a pencil of lunar caustic being introduced into the opening, was turned round two or three times between thumb and finger, pressing at the same time against the bone. This application was repeated daily, and the joint fomented prior to each dressing. The diet was light and nourishing. The pain in the joint gradually diminished; the enlargement of the frontal bone disappeared, and his health improved rapidly. This plan of treatment was continued for some time, when he was again ordered to join his regiment. Passing through Edinburgh he consulted an eminent profes-

sor, and an equally distinguished staff-surgeon, then at the head of the army medical department in Scotland, both of whom strongly urged him to desist from moving the joint, and to discontinue the caustic, that anchylosis might take place. I as strongly urged my own mode of treatment, which was continued; and I have the satisfaction of knowing, that, although the morbid conformation of the humerus was not removed, its progress was completely arrested; the limited motions in the joint were preserved, and his health perfectly restored.

Case VI.—A boy about eight years of age, was attacked with scarlatina, and soon after his recovery, he was seized with one of those violent inflammations and suppuration of the internal ear which so often follow this disease. The purulent discharge continued for several weeks, and his hearing became impaired. The surgeon who attended used astringent injections, but latterly directed the parents merely to keep the parts clean with tepid water. The discharge becoming more copious, exceedingly offensive, and the deafness increasing, I was consulted. On examination I discovered a fungus obliterating the whole passage at its inermost extremity; and the character of the discharge was such, as left no doubt as to the state of the bone. Three ounces of compound decoction of sarsaparilla was given, morning, noon, and night; a teaspoonful of the antimonial mixture with opium, half an hour after each dose of the decoction; and one grain of Plummer's pill every night at bed-time. A small pencil of lunar caustic was inserted into the fungus, and regularly repeated every day at the same point; a fomentation being applied over the ear previous to each application of the caustic. The parents were instructed to manage these applications, and he returned home.

In a few weeks the fungus disappeared entirely, and a piece of bone, about three-fourths of an inch long, and one-fourth in diameter, was discharged at the meatus; his hearing was perfectly restored, and the dicharge dried up.

Case VII.—A lady rising suddenly from a trunk in which she had been packing clothes, twisted her right knee so severely, as to render her incapable of moving.

Leeches, evaporating lotions and foments, were applied successively, with considerable benefit; but she could not move the limb without exquisite pain in the whole knee-joint, and was thus compelled to keep the extremity constantly in the horizontal position. Pain, with a burning sensation shooting up from the lower end of the tibia towards the knee, followed, and seemed to be more concentrated at the upper end of the bone, about three-fourths of an inch, laterally and inwardly from the anterior tuberosity, which felt tender to the touch. The joint was neither swollen nor outwardly inflamed. Blisters and fomentations were applied without benefit.

Conceiving the case to be one in which the articular cartilages were more implicated than the bones, I strongly urged the use of caustic. Five months of great suffering however, elapsed, before she could be prevailed on to try it. It was only, when even opium ceased to afford the accustomed temporary relief, that she yielded to my recommendation. At this time there was no change of parts worthy of remark beyond what has been stated.

An incision with a scalpel was made into the severely pained, though slightly elevated part of the tibia, and a large pencil of caustic introduced to the bone. Fomentations were also used, and the caustic daily inserted, and turned two or three times round in the opening. Soon after the purulent discharge commenced she experienced manifest relief; but when the caustic was by any chance intermitted, the pain immediately returned, and as immediately disappeared on its reapplication. Tiring however of its use, she allowed the issue to heal, but was soon compelled to have it again re-established. By its continuance, she got so well as to be able to put her foot to the ground, and with the assistance of a crutch to walk a little. The joint was stiff, (not anchylosed,) but free from pain.

The issue was again allowed to heal up; and she went on daily improving for about two months, when unfortunately, in reaching for something, she lost her balance, fell backward, and twisted the affected knee. This was followed with severe pain, inflammation, and swelling of the whole joint, which was subdued by repeated leeching, fomentations, and by the insertion of the caustic issue on each side of the *ligamentum patellæ*. She gradually got so much better, as to be able to resume the use of the crutch, putting the toes only to the ground. The limb being contracted by long continuance in one position, precluded any greater use of it. Her general health was tolerably good, throughout the whole progress of her complaint, and she was now so far recovered, as to be able to walk tolerably well with the assistance of a stick.

To the preceding cases, numerous others, some of them equally unpromising, might be added, in which precisely the same mode of treatment was resorted to with similar success. It was only where the system was completely undermind, by long-continued purulent discharges from extensive disease, in the more advanced stages of those of specific character, in old hip and knee-joint cases, and in carious affections of the bodies of the vertebræ, that either the local or constitutional remedies proved of little use. But in most other cases, from the judicious application of the *argentum nitratum*, with the occasional use of the sarsaparilla, both of which constitute the principal features of the treatment now recommended, the benefits experienced were as decided as could have been desired.

It is indeed true, that where the diseased or dead portion of a bone can be readily and easily removed, the cure is expedited by seasonable operation. But this cannot at all times be effected, both from the situation and extent of the parts on the one hand, and the timidity of the patient on the other. Besides,

there are many excellent surgeons in the profession, who frequently meet with cases favourable for such measures; but not possessing the necessary dexterity in surgical manipulations, prefer milder measures, or letting them alone, to attempts at requisite but difficult operations. Even were it otherwise, there are some patients who would infinitely, sooner carry on after their own way, and prefer continuing the victims of disease, rather than submit to cutting, sawing, or chiselling, although assured that ten minutes, or as many seconds only, thus occupied, would afford substantial and permanent relief.

It is under these circumstances, that I consider milder treatment, if at all successful, of some value. That which I now with deference attempt to advocate, having in the course of my own experience proved most satisfactory. I feel myself warranted in asserting, that although these means may be ofttimes slow in effecting the desired change, yet in those cases in which the constitution is at all susceptible of improvement, by the local interruption of the diseased action, they will ultimately be sure.

Within the limits of an essay such as the present, it is impossible to be so minute in detail as could be desired; but the simplicity of remedies admitting of such general application, will in some measure apologize for those omissions, which more complex management would render indispensable. Considering the manner of conducting the treatment at present of most importance, I shall now proceed to make a few general observations on the individual remedies usually resorted to, and endeavour to point out such peculiarities in their application, as may be deemed of greatest value in a practical point of view.

General blood-letting can only be resorted to with advantage in the acute stages of those diseases of the bones, which partake of the gouty or rheumatic character; and even here only where the system is robust or plethoric. Under almost every other circumstance, I consider it entirely inadmissible; since any temporary benefit will be found to prove no compensation, for the aggravation of the morbid irritability which often precedes, or almost invariably follows these affections.

Measures less fraught with injury to the general strength seem to promise more substantial advantage. In the earlier part of my practice I was in the habit of giving the compound powders of ipecacuan, solutions of tartarized antimony with laudanum, or opium with calomel. Latterly I have used with still greater advantage the *Vinum Colchici*, with Battley's *liquor opii sedativus*. These I have used in the proportions of two or three parts of the former to one of the latter; giving to an adult thirty drops or more every three or four hours, according to the urgency of the symptoms, and continuing until the stomach or bowels became affected, or copious perspiration was excited.

Of the *colchicum* I cannot speak in too high terms; and must say that the inflammatory action will be extremely rapid, or have done much mischief previous to its use, if this medicine does not arrest its progress. As it often leaves an indescribable languor of the whole system for thirty or forty hours after it has taken effect, it must be intermitted until the state of collapse has entirely disappeared. To leeching it will be found an adjunct of the greatest value. Whether the affection be superficial or deep-seated, if there be much pain, or reason to apprehend acute action, leeches should certainly be applied over or as near the part as possible. Scarifying and cupping, from the greater irritation, may be more beneficial in less active cases. But I have remarked, that in almost every instance when the most decided relief did not follow local abstractions of blood, proportioned to the magnitude of the mischief, especially by leeching, either simple ulceration, necrosis, or disease of a specific character, soon became manifest.

After the acute stages of inflammation have passed away, by ordinary tact, the periosteum will often be felt thickened, or the bone itself enlarged. In this state it is customary to resort to embrocations, liniments, and blisters. Although the two former are of considerable use in reducing enlargements of the soft parts, under similar circumstances, they are unquestionably not productive of so much good here. Blistering, and keeping a part open with *ceratum sabinæ*, I have found to answer much better, and still more so the use of the ointment of tartarized antimony. The purulent eruption produced by this application I have often seen to exert a powerful influence over the diseased part; and it combines the further advantage of being more easily borne.

In Germany, affections of the bones and joints, especially knee-cases, are believed to be the consequences of repelled cutaneous eruptions; and the particular affection of the former, it is alleged, may be identified with the peculiar character of the latter.* In Britain, an idea nearly similar has been promulgated regarding syphilitic diseases, where it is asserted that several varieties of secondary eruptions can be identified with a corresponding variety in the primary sore.† Neither of these opinions, however, have obtained sufficient weight among the profession to influence the general practice; although, if once confirmed, in every view they would be of the highest importance; as we could produce almost every variety of cutaneous affection, although divested of their specific characters by artificial means. Thus the erythematous inflammation may be caused by stinging with nettles, the papular by ammoniacal embrocations; the vesicular by cantharides; the pustular by tartarized

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* This opinion has been entertained and acted upon for a long period by Professor Autenreith, senior; and the success attending his practice affords the strongest proof of its being well founded.

† Vide Carmichael on Syphilis. Quarto edition.

antimony; and the most intense itching by the *Dolichos pruriens*, and so on.

In many cases after the disease has been arrested by the means to which I have adverted, the bone continues enlarged, or the periosteum thickened, and the application of a soap or mercurial plaster, with slight compression by means of a bandage, where it can be applied, seems all that is necessary. But often absorption does not take place, and the enlargement may continue, although perfectly harmless, during the remainder of life.

Where, however, the mischief is still disposed to show itself, from slight causes or exertions, the establishment of a caustic issue will be indispensably necessary. When the most prominent part can be easily reached, I have invariably made an incision with the point of a scalpel, down to the bone, and not larger than was sufficient to admit a pointed rod of lunar caustic, of the usual size, which was immediately introduced, twirled round two or three times, and instantly withdrawn. A poultice of wheaten bread and milk, or mashed turnips, was then applied, and renewed twice a-day until the eschar separated, or the purulent discharge was established. The caustic was introduced in a similar manner, daily or every second day, according as the slough was thrown off. When, however, the diseased structure could not be reached without injury to important soft parts, I contented myself with an incision to the depth of one-fourth or one-half inch, and using the caustic as already mentioned.

In hip cases and vertebral affections I have used the caustic potass exactly in the same way, and certainly with much greater satisfaction than the usual slow process of destroying the integuments through an aperture cut in sticking-plaster. In either case it is not necessary, after the manner here recommended, to wet the escharotic, the blood being abundantly sufficient to dissolve as much as will be enough to answer every purpose; while its viscid and coagulating property will prevent unnecessary destruction of parts. The potass, however, will not admit of such free use as the other, and should be almost immediately withdrawn after its introduction.

Short of the actual excision of the parts, I consider the lunar caustic to be the sheet-anchor in the treatment of affections of the bones. In the hands of all practitioners it has proved of the highest value, but, like every other remedy of established reputation, is sometimes liable to abuse. If too liberally applied, or too often repeated, severe inflammation will inevitably follow; an irritation intended to be contiguous or remote will become continuous. But if confined to one point, or where fistulous outlets have been established, or if it is introduced to a very limited depth into one or more of them, no mischief need be apprehended; on the contrary, the inflammatory tendency will be subverted. I have observed this in a remarkable manner confirmed in a case of caries of the orbital ridges of the superior maxillary bones, when the eyes were exceedingly prone to inflammation. A few hours after the introduction of the lunar caustic, (reduced to the size of a crow quill,) this would entirely disappear, but was always sure to return, if by any chance it happened to be intermitted, and was invariably aggravated if too freely used. The same thing I have often observed in caries of the bones of the hand and foot, and was consequently obliged to have the caustic cast into rods of much smaller dimensions than usual,—accommodated both to the size of the opening, and the extent of the affection. Where the carious or necrosed bone could be readily reached, I usually passed the caustic to it; but where the soft parts intervening were greater than half an inch in thickness, I never penetrated deeper; and the greater the depth, the less free use in turning was observed, at all events until the parts became accustomed to its application.

When inflammation supervenes in cases of caries or necrosis, either from the too free use of the caustic or other causes, the application of fomentations, with decoction of poppy capsules, will be found among the most tranquillizing. At all times, indeed, whether inflammation exists, or threatens, or not, I have found fomentations of great advantage. In those cases where the action of the parts have become languid from long-continued discharges, and the constitution is weakened, the local energies will be considerably improved by fomentations; and they are further attended with another advantage of no mean importance, viz. that of keeping the parts always clean. Under these impressions, I have continued to use fomentations for a few minutes or longer, before each application of the caustic; and I may observe, that I have not found the same advantage from immersions into, or pouring the tepid infusion or decoction over the parts, as from wringing flannel cloths dipt into, and applying them as hot as the patient could comfortably bear.

The occasional use of turnip poultices will be found of some service, but unless frequently renewed, they emit a disagreeable fetor, both from the change which soon takes place in themselves, as well as admixture with the offensive discharges. It will, therefore, be advisable to dust them over with powdered charcoal, previous to their application, which should always be preceded by fomentation.

When the parts have acquired a healthy character, one fistula will heal up after another; and their vigorous action will resist the further introduction of the caustic; but so long as it can be used without actual violence, it will certainly be prudent to protract or continue to resist final cicatrization.

It is perfectly true that no effect will be produced by the application of caustic to inert or dead osseous matter. But the irritation of the contiguous vessels will excite absorption of the offending parts, or cause the living to throw off the dead; and while this irritation is confined to particular points, the influence over the disease will be exerted in the direction of the exterior irritant, proceeding from

the remotest part of the interior.* But in whatever way the caustic acts, whether by contiguous, continuous, or remote, local or partial sympathies, as a continued derivative, after the manner of the acupuncture, or merely by keeping the outlets sufficiently open to give free vent to the discharges, we have abundant evidence of its utility in promoting the healing of caries, in accelerating absorption, in facilitating the separation of the dead from the living parts, and in arresting morbid osseous enlargements, to enable us to decide in its favour. Whether it exerts a specific power over the parts is equally matter of doubt. The disappearance of fungous growths, by continued applications to one particular part, would incline me to this opinion, which receives some confirmation from the character and termination of the first and sixth cases which I have described.

Of the moxa I have not had much experience; but where I did try it, the results were not so satisfactory as those which have been reported by others.

The actual cautery I have used with advantage; and I can truly assert, that when it is applied with dexterity, and nearly at a white heat, the pain is by no means so great as might at first sight be imagined. Unless, however, the iron be brought to a sufficient heat, and adroitly applied, it will unquestionably aggravate the mischief, rather than prove beneficial.

When the excision of the part will not prove detrimental; when little prospect is entertained of effecting a cure by less formidable means; where the patient is passive in regard to the operation, and the part can be with facility removed, there can be no question with regard to the superiority of this measure over every other.

In all these affections, especially those of long standing, the effect of topical remedies will be powerfully aided by the use of those which invigorate the general health, and improve the state of the constitution. For this purpose I have found nothing to equal the sarsaparilla, exhibited in the form of its compound decoction. The formula employed was that of the Dublin college; and from the benefits witnessed under its use, I have no hesitation in asserting that the disappointments which others have experienced, and which have led to so many conflicting opinions regarding its medicinal virtues, may be justly referred to the badness of the article furnished by our druggists,—an assertion which may be verified by repeated trials of the several varieties usually offered for sale. That imported from Jamaica is decidedly entitled to a preference. In a conversation which I recently had with Dr. Saunder and Mr. Nautier, an eminent physician and surgeon in Rotterdam, a variety of this medicine was introduced to my notice, different from any which I had ever seen; and from their report must be much more powerful than that commonly used in this country. I could procure none of it either in London, Liverpool, or Glasgow; but having as yet made no trial of the quantity now in my possession, I cannot speak as to its superiority.

In some cases where the decoction did not appear to do much good, tartarized antimony in solution, with tincture of opium, were given to such an extent as the stomach could bear without nausea or sickness, two hours after each potation, as was also the calomel pill every night, or second night at bed-time, with the best effects; nor was the same improvement observed by the use of the latter alone. In every case, therefore, where the decoction *per se* is found to be inert, it may be advisable to combine the others ere it be abandoned.

It is scarcely necessary to observe that the diet should be both light and nourishing, and that all salt and highly-seasoned food should be studiously avoided.

As the object of the present essay is purely to communicate the results of the practice which I have pursued in the management of diseases, regarding which the sentiments of the profession have hitherto been much divided, I trust I shall be forgiven for omitting the mention of many valuable additions lately made to our literature on this important subject. A hope is entertained, however, that the treatment recommended, especially as it regards the use of the caustic and sarsaparilla, will be found abundantly satisfactory in the practice of others. Some cases may certainly get well by the use of either, but the curative process will more certainly be accelerated by the combination.

* I have used the caustic after the same manner in the treatment of abscesses. In a case of empyema and a psoas abscess, where upwards of an English pint of matter was discharged daily for several days after the first partial evacuation, the caustic was regularly introduced to the depth of half an inch into the openings at each dressing, and both patients got well. The constitution was supported at the same time.

From the London Medical and Physical Journal.

Case of Inflamed Vein and extensive Phlegmonous Erysipelas of the Arm, following Venesection, treated by incisions. Under the care of Mr. Earle, at St. Bartholomew's Hospital.

Margaret Gearing, æt. twenty-four, a maid servant, presented herself as a casualty patient on the 28th of July, 1827. She stated that she laboured under a suppression of the catamenial discharge, and requested to lose blood, from which she always experienced immediate relief. She was bled by the dresser, and no more was heard of her till the afternoon of the 30th, two days after venesection had been performed: she then stated that, on the evening of the 29th, her arm became uneasy, which induced her to remove the bandage,

and, upon examining the wound, she found it somewhat festered, and painful to the touch. She applied a poultice, and took a little opening medicine. On the 30th, she felt exceedingly unwell, her arm becoming more painful, and she begged to be admitted into the hospital.

The following symptoms were observed:—The arm, about the elbow joint, is a little swollen and painful on pressure; the wound in the vein is open, and contains a small quantity of pus; the vein is also thickened around the puncture, and upwards to the extent of half an inch; red lines, extending in the course of the absorbents, can be distinctly seen. Her countenance is anxious; skin hot and dry; pulse 100, and hard; tongue furred; bowels somewhat confined. V.S. ad ℥xvj. (which produced syncope.)—Hyd. Submur. gr. iij.; Pulv. Antimon. gr. v. statim.—Mist. Salin. cum Mag. Sulph. ℥j. quartis horis.—Cataplasma panis brachio.

July 31st, at eight A. M.—She was seen by Mr. Earle. The arm was now greatly swollen; erysipelatous inflammation extending from six inches above the elbow joint to the wrist; the integuments were tense and exceedingly painful. She complained of pain extending towards the axilla, the glands of which were tender to the touch. The constitutional symptoms are aggravated; pulse 100, rather more compressible. Blood drawn yesterday not buffed.

Mr. Earle stated that, unless the inflammation and tension of the limb were soon relieved, extensive sloughing of the cellular membrane would, in all probability, ensue. With the view of preventing an occurrence so likely to endanger the life of the patient, he immediately made two incisions, of about three inches in length, along the upper part of the forearm, extending down its radial side: these incisions extended down to the fascia; the cellular membrane did not appear to have yet undergone any change, but was exceedingly vascular, and cut crisp. About ten ounces of blood flowed from these incisions in the space of two hours. She expressed herself as being much relieved. Tension of the limb somewhat subsided, nor is it so tender to the touch. The arm to be well fomented.—Continue the Saline Mixture, with Sulph. Magnesiæ.

August 1st.—She had passed a more comfortable night: pain, tension, and redness of the limb has entirely subsided. The constitutional symptoms are, however, yet severe: pulse ninety-six, and hard; tongue furred, with much pain in the head; skin rather hot; bowels inclined to be costive. V.S. ad ℥xij.—Haust. Sennæ statim.

2d.—Feels much relieved. The arm is now of the natural size. The blood drawn yesterday was buffed. Ordered Mist. Salin. cum Potassæ Nit. gr. viij. quartis horis.

Ten P.M.—She feels very uneasy; there is increased heat about the carpal extremity of the forearm, which is tender on pressure. Ordered Hirudines xij. brachio. Postea Cataplasma panis.—Calomel gr. iij.; P. Antimon. gr. v. statim.—Contr Mist. Salin. cum Pot. Nit.

3d, eight A.M.—She is much worse. The inflammation is extending up the forearm; the integuments about the wrist and back of the hand are exceedingly tense and painful; countenance flushed; skin hot and dry; tongue furred, and bowels costive. During the night she had a smart attack of shivering. The patient strongly urges that another incision may be made. One of four inches in length was accordingly made on the outer side of the wrist; a small quantity of pus was seen oozing out with the blood which flowed from the wound; a small portion of cellular membrane at the lower part of the wound looks in a sloughy state. About four ounces of blood were lost from this incision. The patient felt immediate relief. The arm to be well fomented; after which, let it be covered with a bread poultice.—Calomel gr. iij.; Pulv. Jalap. gr. xv. statim.—Contin^r Mist. Salin. cum Pot. Nit.

4th.—All unfavourable symptoms have left her. The arm is quite free from inflammation; the integuments have resumed their natural appearance. Bowels have been well opened by the Calomel and Jalap; pulse very feeble; the wounds are looking remarkably healthy. Continue the poultice.—Ordered Inf. Cascar. ℥jss.; Tr. Card. c. ℥j. ter die.—Strong broth diet.

10th.—She is gradually regaining her strength. The two upper wounds have nearly healed; a portion of cellular tissue has sloughed away from the lower one, which in all probability is the cause of its not healing so readily as the other incisions. Contr med.

19th.—During the night she had an attack of fever, accompanied with severe pain in the head; tongue furred; skin rather hot; complains of thirst. Applic^r Hirud. x. temp.—Ammoniæ Subcarb. gr. xv.; Acid. Citric ℈j.; Mist. Camph. ℥jss. quartis horis, in active effervescence.

The two upper incisions have cicatrised. Another small portion of sloughy cellular membrane was removed to-day with a pair of forceps from the lower one.

21st.—Passed a comfortable night, and is much better. Contr med.

23d.—Not so well. Febrile symptoms have again returned; complains of nausea and headach. Ordered Calomel gr. iij.; P. Antimon. Tart. gr. j. statim.—Mist. Salin. cum Pot. Nit. quartis horis.

24th.—The medicine has produced several copious evacuations, of a dark colour. Feels greatly relieved. Contr Mist. Salin. cum Pot. Nit.

29th.—The lower incision has now quite healed; she has perfect use of the limb. Her health rapidly improves. Ordered Sulph. Quinine gr. ij. cum Inf. Menth. Sulph. ter die.

30th.—She was discharged quite well.

Remarks.—Mr. Earle considered this a well marked case of phlegmonous erysipelas, and an illustration of the good effect of incisions in the early stage of this disease. That these incisions will reli eve the tension and pain of

the part, and prevent the sloughing of the cellular membrane, this case alone will exemplify; for we find that where the incisions were made in the upper part of the arm, no sloughing of the cellular membrane took place, while at the lower part of the arm this process was not altogether prevented, from an incision being made at a later period of the disease: and there is little doubt but that this last incision prevented the further progress of mischief.

From the Medico-Chirurgical Review.

LARYNGITIS. By M. Martinet. *Hôtel Dieu.*

In a short clinical report, published by Dr. Martinet, in a late number of the Révue Médicale, an interesting case is detailed, of which we shall give the particulars in this place.

1. *Angina Suffocans.* The author avoids entering into the discussion, whether croup be a disease essentially different from cynanche laryngea et trachealis. The angina suffocans is an inflammation about the top of the air-passage, and presents some differences, according as the inflammation is seated in one or other part of the larynx or its appendages. The alteration of the voice, the sound of the cough, the distressing paroxysms of suffocation, the kind of expectoration, (when there is expectoration) suffice to characterize *cynanche laryngea and cyn. trachealis;* while, on the other hand, the tumefaction and redness of the velum palati, tonsils, and pharynx, together with the presence of crusts and exudations of different sizes, on these parts—the difficulty, or even impossibility, of swallowing—the regurgitation of liquids through the nose, these will readily mark the existence of cynanche pharyngea and tonsillaris. Œdema of the glottis may be suspected, when there is a sensation as if a foreign body were placed in the throat, and more especially when, by the finger, a kind of ring or ridge is felt surrounding the rima glottidis—attended with extreme dyspnœa. But often there is a complication of all these affections in the same subject.

In some instances, the angina suffocans does not show unequivocal characters of *inflammation*, and then our practice is necessarily embarrassed—some trusting to depletion, some to calomel, and others to emetics and counter-irritation. In this state of vacillation as to the best method of treatment, the patient often dies by the rapidity of the disease, and the derangement which some of the most vital functions in the body experience. The following case will show the path which we ought to pursue, where the subject is young and vigorous. It will also demonstrate the power of art over one disease at least.

Case.—Peter Chapion, 26 years of age, of vigorous and sanguineous constitution, came into Hôtel Dieu on the 11th March, being that day seized with acute pain in the throat, about the top of the larynx, quickly followed by difficulty of breathing, and sense of suffocation. Eight ounces of blood were taken from the arm, but the sense of suffocation continued, and made progress, without increase of frequency in the pulse, or elevation of heat on the surface. *Thirty leeches* were applied round the neck, and, the same evening, venesection was repeated to *twenty ounces.* The dyspnœa was relieved by this last bleeding, and the sense of suffocation rendered less imminent. *Mustard pediluvia.* 12th. The pain at the top of the throat is still acute—the voice is altered from its natural tenor, being much weaker—respiration difficult and sonorous, but not accompanied with much sense of suffocation—tumefaction of the tonsils and uvula—no appearance of albuminous exudation on any part of the fauces—the deglutition is difficult—pain on pressure of the larynx, Some of the physicians, on introducing the finger, thought they felt a swelling about the rima glottidis. There was an expuition of reddish and sanguinolent saliva—pulse easily compressible and very little increased in frequency—heat moderate—countenance indicative of anxiety—great prostration of strength—face neither pale nor flushed, but the circulation apparently impeded—inability to deviate from the upright posture. *Venesection—blister to the nucha—purgatives—sinapisms to the lower extremities.* This day passed, like the preceding, in a state of constant dispnœa, with occasional paroxysms of sense of suffocation, not, however, so threatening as to require tracheotomy. *Sixty leeches were applied round the neck,* and a cataplasm over the bites. 13th. The sense of suffocation is diminished, and the patient can fill the chest by a deep inspiration—expectoration very difficult but changing in character to the muco-purulent form. *Twenty more leeches to the neck.* On examination with the stethoscope, the breathing was heard much more distinctly in one side of the chest than in the other, and the *râle muqueux* indicated inflammatory action of the mucous membrane of the bronchia. From this time, the expectoration became freer, and the dyspnœa less, until convalescence was established.

Remarks.—The above is a good sample of that dangerous disease laryngitis. The depletion, except in the first instance, was bold and decided; but the Hôtel Dieu physicians deprived themselves of a powerful means of checking the inflammatory action, by withholding nauseating doses of antimony and calomel, which increase the intestinal secretions, and save a great deal sanguineous depletion.

From the Medico-Chirurgical Review.

CURIOUS SPECIES OF CEREBRAL HEMORRHAGE. By M. Bravais. L'Hospice de Bicêtre.

There is, says M. Bravais, a disease of the cortical substance of the brain, to which anatomists and pathologists have not directed sufficient attention. It is a hemorrhage which generally occupies the whole of the cortical substance of the brain, giving place, first, to

the formation of small globules of blood, mixed with a nervous pulp, and afterwards producing yellowish cicatrices, extending from the external coverings of the brain down to the medullary matter. This lesion has an intimate connexion with cerebral hemorrhage. The symptoms, at all times obscure, have not been distinguished when the disease was bounded to a small portion of brain. They are such as appertain to congestion and softening of the cerebral substance. Sanguineous effusions into the cortical structure are described by all authors; but M. Bravais has not seen any description answering to those yellow membranous-looking cicatrices which are now to be delineated.

Case 1.—Pinard, aged 32 years, presenting, for several years, the symptoms of sombre melancholy, was observed to become rapidly emaciated during the last month of his life, and he complained much of pain in the right side of the chest, without any expectoration. He refused his food, and died on the 5th April, 1824.

Dissection.—There was a moderate proportion of blood in the sinuses and meninges of the brain—very little serosity on the surface of the hemispheres—or in the ventricles. The arachnoid and pia mater were transparent, and easily detached from the surface of the brain. In the posterior lobe of the left hemisphere was found a crude tubercle, of small size, which readily turned out with its investing membrane. Around this tubercle, the cortical substance of the brain was reduced to a pulp, of a dark colour, in which the debris of the cerebral structure was discernible, mixed with some globules of blood. The rest of the brain preserved its usual consistence. The lungs, especially on the right side, were filled with miliary tubercles, and the bronchial glands were tuberculous.

The narrator thinks it evident, that the cerebral tubercle, and the hemorrhagic condition of the surrounding part, came on in the latter state of this man's existence, and had nothing to do with the melancholic affection under which he so long laboured. Of this, we do not see the evidence so very clearly. Knowing the slow growth of tubercles generally, we do not see any reasonable doubt, that the one situated in this man's brain may have contributed to the disturbance of the sensorial functions.

Case 2.—Dupille, aged 50 years, entered the Bicêtre, on the 15th May, 1824, with the following symptoms:—Delirium, loquacity, constant motion of his limbs. The strait waistcoat was applied. *20th May.* Considerable dyspnœa—delirium—coldness of the extremities—feeble and quick pulse—puriform expectoration with his cough. He died on the 29th May.

Dissection.—The meninges of the brain were perfectly natural, and the pia mater was easily detached from the subjacent cerebrum. There was a portion of cerebral substance, however, at the under part of the middle right lobe, which was completely impregnated, as it were, with blood, the nervous pulp and blood being intimately mixed. This was in the cortical substance:—The medullary portion underneath was quite sound. In the thorax, a pint of limpid serum was found in the right side—in the left, a pint and a half of sanguinolent watery fluid. There was not any material disease of the lungs, except in one place. The pericardium adhered at one spot, by a false membrane, to the heart. The substance of the heart was soft, and easily lacerable, especially the left ventricle, which tore in two places, merely while handling it.—*Révue Médicale.*

It is evident that the thoracic affections, in this case, were quite sufficient to destroy life. The cerebral hemorrhage does not appear to have produced either convulsions, or loss of sensibility or muscular power.

A considerable number of other, and nearly similar, cases are related, but we think the above are sufficient to attract the attention of pathologists to this particular lesion of the brain.

From the Medico-Chirurgical Review.

GANGRENE OF THE FEET FROM OBSTRUCTED AORTA.

Case.—Count C———, aged 66 years, of athletic constitution, keen appetite, and a very hearty eater, had always kept himself in a state of plethora, with tendency to cerebral congestions and gastric irritation. From these affections he was usually relieved by sanguineous depletion, especially leechings; but his appetite being too powerful, he was never sufficiently guarded in his diet. In the autumn of 1826, the Count became subject to an unpleasant sensation of heat in his feet, particularly when walking, which obliged him, after a promenade, to put his feet on cold marble to allay the heat. In the month of December, of the same year, the patient was seized with acute pain in one of his hams, which was removed by leeches. Next day, the pain settled on the tendo-achillis and neighbourhood, and appeared of a gouty nature, there being some swelling and redness. One evening, after a rather too free dinner, and a glass or two of strong wine, the pain became greatly exasperated, attended with quick pulse and hot skin. Leeches were applied without relief, and an attempt was made to bleed from the arm, but without success. The pain increased—delirium came on—with constant jactitation, and screaming. On examining the part, some vesications were seen, and soon afterwards gangrene manifested itself unequivocally. A troublesome hiccup now supervened, and could not be stopped. In the course of a few days the gangrene had invaded the whole of the leg—the patient became comatose—black spots appeared on the other extremity, and death closed the scene.

Dissection.—The heart was found enveloped in a thick layer of fat, and intimately adherent to the pericardium throughout. The organ was flaccid, softened in structure, and

its cavities dilated. The semilunar valves of the aorta were ossified, and the vessel itself considerably dilated, especially at its arch. About an inch and a half below the origin of the cœliac artery, the aorta became completely ossified, and its bore almost entirely obliterated. There were only two small passages for the transmission of blood, not more than half a line in diameter each. The iliac arteries were also interrupted, and nearly obliterated in several places. The femoral, or rather the inguinal arteries, about the crural arch, were rather dilated, thickened in their coats, and much ossified. Below the crural arch, the left femoral artery was merely thickened, whilst that of the other side was red, and filled with clots of different degrees of consistency. The vessels of the mortified parts participated in the condition of the surrounding soft tissues. The veins of the lower extremities were thickened, and obstructed. There were various marks of inflammation and thickening in the stomach and bowels, with considerable serous infiltration into the ventricles and between the membranes of the brain.—*Broussais' Journal.*

Remarks.—It appears that the Count had been blind for several years, without any appreciable lesion of the optical apparatus. In the examination of the brain, it was found that the tubercular quadra-gemina and the optic nerves were not more than one half their natural size. The propensity of the Count to good eating and drinking has been observed. The state of the stomach accorded with this propensity. The mucous membrane was in a state of hypertrophy, and presented a remarkable contrast with the state of atrophy in which were found the optic nerves. The obstructions in the aorta, and in other parts of the arterial system, were owing, in M. Broussais' opinion, to a general inflammatory condition of the vascular system. The gangrene of the lower extremities was also, no doubt, the result of this obstruction to the regular supply of blood to those members.

From the London Medical Repository.

DEATH BY SUBMERSION.

The following is the substance of a memoir, of great medico-legal interest, which was read by M. Orfila at a recent meeting of the Académie Royale de Médecine. The object of the author is to ascertain what are the signs peculiar to death occasioned by submersion; a question on which writers have hitherto been much divided. 1. The livid, suffused, and bloated appearance of the face, with frothy slaver in the mouth and nostrils, which some have considered to be sure signs of death by drowning, are rejected as such by M. Orfila, because they are often wanting in drowned bodies, and occur frequently in other kinds of death. 2. Thus, too, the great paleness of skin is more an effect of prolonged immersion than of the kind of death. 3. Excoriation of the fingers, and traces of mud or dirt under the nails, prove but little: they are not found in those who have died before they touched the bottom of the pool or river; and again, they are found on corpses which, before falling into the water, shall have come in contact with any harsh or dirty substance. Besides, after long immersion, putrefaction of the parts has proceeded so far as to confound all marks of excoriation, as well as those of mud and dirt; the epidermis and the nails peel off. 4. The injected state of the meninges is a fallacious sign: all drowned bodies have it not, while other corpses have. Nevertheless, we should not overlook this appearance, if it were proved that the corpse grew cold in the vertical position. 5. In most of the drowned, the right cavities of the heart, the veins, and pulmonary arteries, are distended with black blood; the arterial system, on the contrary, if not altogether empty, as Curry affirms, is at least much less full. The right ventricle, too, is of a blackish brown, the left of a clear rose colour; and the right cavities retain a contractility far exceeding that of the left side. But, not to mention that these phenomena are observed in many other kinds of death, we may see the parietes of the heart readily change colour, and become brown by contact with the blood; and, in order to witness the greatest degree of irritability in the right cavities of the heart, we should open bodies *soon* after submersion. 6. The blood is found fluid in almost all the drowned; though an unaccountable exception obtains in dogs so deprived of life: yet this fluidity occurs in several other kinds of death; and even in cases of drowning, Lafosse long ago, M. Avisard recently in two instances, and M. Orfila himself in another, found the blood coagulated. 7. It has been said that the drowned die in the act of inspiration, and therefore have the diaphragm depressed, and the ribs elevated: common reflection alone might have refuted this assertion, if M. Orfila had not positively contradicted it, after the examination of above fifty drowned bodies. 8. By the experiments of MM. Edwards, Jenner Cox, Piorry, and Orfila, the early influx of water into the stomach during submersion, and its entire absence in cases of death preceding submersion, is now well established. So that, if the stomach contain water, which is identified with that out of which the corpse was taken, a probability results that submersion was the cause of death. At the same time, it should be ascertained that this water was neither swallowed before death, nor injected into the stomach afterwards. 9. As to the state of the respiratory tubes, the remark of M. Detharding, that after drowning, the larynx is found closed by the epiglottis, is not true; and the appearance of froth in the trachea affords very uncertain evidence, being neither universally present nor permanent.

The only absolute proof of submersion having been the cause of death will be the presence of water in the extreme ramifications of the bronchia—but with these reservations, that the contained water is the same as that in which submersion took place, that it

has not been injected after death, and that it could not have entered in consequence of the vertical position of the corpse. Owing, however, to the attempts at inspiration, water penetrates farther into the lungs before death than it can afterwards.

Unfortunately, it is difficult to detect water in the pulmonic issue, unless it be coloured, or turbid with mud, which is so rare a case, that M. Orfila has only met with it in one out of the many bodies of the drowned that he has examined. And here we are warned against mistaking for sand or gravel the particles of food, which, rising from the stomach into the fauces, may have subsequently passed into the trachea. This phenomenon has frequently been observed in the drowned, even where no putrefaction had yet commenced. M. Orfila then adds, that the absence of water in the bronchia, and of froth in the trachea, is accounted for in various ways; so that nothing is thereby proved against fatal submersion. In conclusion, he adverts to a remark of M. Piorry, that while in all sudden deaths the bladder is empty, it is found full in dogs that have been drowned. M. Orfila attributes this fact to absorption of water which has penetrated the bronchial ramifications; but he is not disposed to receive it in evidence—for, according to the experiments of M. Piorry, this fulness of the bladder disappears as the body becomes rigid; and rigidly comes on soon after drowning, in consequence of the rapid refrigeration of the body by the cold water.

At the suggestion of M. Itard, the meeting ordered the work of M. Orfila to be published.—*Revue Médicale.*

From the Medico-Chirurgical Transactions.

ON THE USE OF THE SULPHATE OF COPPER IN CHRONIC DIARRHŒA.

By John Elliotson, M.D. Cantab. Fellow of the Royal College of Physicians, and Physician to St. Thomas's Hospital.

On Thursday, October 13th, 1824, I admitted into St. Thomas's Hospital, an Irishman, named Garret Welsh, twenty-four years of age, who had been labouring under diarrhœa for three months.

The abdomen was tender on pressure, the pulse quick, the skin hot, and the tongue foul and dry. The motions were yellowish and watery. I ordered a very large blister to be applied over the abdomen, half a grain of opium to be taken night and morning, with chalk mixture, and the diet to consist of milk.

In a few days the tenderness was much diminished, but the diarrhœa continued. Powdered catechu was added to the mixture, and taken every six hours, and the blister was repeated, but without good effect. Infusion of galls was now made the vehicle of the catechu, and instead of the solid opium, taken latterly in a dose of one grain, night and morning, f℈j of the tincture was given in such astringent draught, a third blister was applied, and as considerable debility and emaciation had taken place, animal diet was substituted for the milk.

The 30th of November had now arrived, and though there was no pain or tenderness, the diarrhœa was as profuse as ever, and the man appeared likely to sink. Mr. Henry South, one of the pupils, mentioned to me that two cases of the successful exhibition of sulphate of copper and opium in diarrhœa, had recently been related in the Physical Society of Guy's Hospital, and I instantly resolved to profit by his information, and prescribed half a grain of the sulphate of copper twice a-day, with two grains of opium, so that the quantity of the latter might be much the same as what had previously been taken in the twenty-four hours. In a few days the disease was evidently less severe, and in eleven from the commencement of the use of the copper, was so much abated, and the man's appearance and strength so much improved, that I ventured to diminish the opium to one grain, increasing, however, the dose of the copper to one grain, lest the disease should gain ground again, and that I might fully satisfy myself which of the remedies had the greater share in producing the benefit. In a week more the disease had so diminished that I ventured to omit the opium; and in another the man felt so strong, and found his disease so inconsiderable, that he would stay no longer in the hospital, and was made an out patient.

This case made a great impression upon me, because two powerful astringents in common use, combined with opium, had previously failed, and the benefit clearly arose from the sulphate of copper, and not from the opium, which I exhibited with it solely for the purpose of preventing the acrid quality of the salt from counteracting its astringent effects upon the intestines.

On December 8th, 1825, I admitted a sailor, named Peter Hurly, aged 48, who had been affected many weeks with the form of diarrhœa so accurately described by Dr. Baillie, in the fifth volume of the Transactions of the College of Physicians. The description is preceded by the remark, that it "is not very generally known, and is almost constantly fatal." Dr. Baillie states, that it occurs more frequently in men than in women, and generally in persons who have long resided in hot climates; that the stools are very copious and numerous, pale, like a mixture of water and lime, frothy, and often of a sour smell; but if they acquire the consistence of pudding, they are still pale; and if they become figured and dark, the colour is rarely so deep as in health, and they soon again become white and frothy; that the body is thin, and the countenance sallow; that there is no tumefaction or pain of the abdomen; and that though the disease may continue several years, and be occasionally less severe, it almost constantly in the end exhausts the constitution.

The present patient was a *man*, and had lived much in *hot* climates; was *thin* and *sallow* and had gradually lost his flesh and strength; his motions very frequent and *copious;* liquid,

white and *frothy:* he had *no swelling* of the abdomen, *nor tormina, nor pain upon pressure.*

I ordered half a grain of sulphate of copper, with one grain of opium, to be taken twice a-day; and his diet to consist of milk, arrow root, strong beef-tea, and a little wine. In four days the dose was increased to one grain. He had not taken this quantity above five days before the stools were reduced to two or three in the twenty-four hours, and they were never afterwards more numerous, except for one day, probably from some accidental circumstance. In a few more days they became thicker, and from that time there was generally but one in the twenty-four hours. On the 3d of January, rather less than four weeks from his admission, they assumed a deep healthy yellow—an occurrence rarely, if ever, witnessed by Dr. Baillie,—and they continued of this colour. They however became liquid again, and I augmented the dose to one grain and a half; and this not rendering them consistent, I augmented the dose after eleven days to two grains. Some pain was now felt in the epigastrium, and a blister was applied without benefit; and as it appeared to arise from the acrimony of the salt, the dose of opium was made gr. iss, with the effect of removing it entirely. The man found himself so strong that he desired to be discharged on the 2d of February. He had now gained flesh, and now passed but one motion in the twenty-four hours, solid, and of a healthy appearance. He took with him a supply of medicines for a fortnight.

This case is particularly satisfactory when compared with Dr. Baillie's experience. "The influence of medicine," he says, "is generally very inconsiderable. Patients will sometimes receive advantage from very small doses of mercury, which will sometimes stimulate their liver to a better and more plentiful secretion of bile, without impairing the strength of their constitution. Some advantage too is occasionally derived from the different kinds of bitter medicines, as cascarilla, cusparia, &c. combined with a few drops of laudanum. A medicine of this kind, taken twice a-day, will sometimes improve the digestion, when it is deficient, will render the motions more solid and less frequent, and increase the strength of the constitution: but this good effect is hardly ever permanent, for the patients almost constantly fall back into a state of frequent and frothy stools. The repeated returns of the complaint at length wear out the constitution, and the patients sink."

The stools of this man became highly bilious, without the exhibition of a grain of mercury, and acquired not only a biliousness, but a consistence never, I should imagine, witnessed by Dr. Baillie; and this permanently. His strength and flesh were restored, and not by general tonics, but by the removal of the disease.

Although the opium must have been useful, the great benefit cannot be ascribed to it, because Dr. Baillie gave opium with such results as we have seen, and because the stools did not become consistent till the dose of the copper was increased.

The following case is one of dysenteric diarrhœa.

John Roberts, aged 39, was admitted April 14th, 1826.—He had been frequently in North America, but in England ever since October. He had laboured for three months under severe purging, the stools being bloody, and amounting to about twelve in the day and night, with tormina and tenesmus. At present the stools were generally thin and yellow, though often bloody and slimy.

I ordered him one grain of sulphate of copper, and one grain of opium, twice a-day. The day after his admission the stools were reduced to five. In three days more they had increased to seven or eight. The medicines were therefore given three times a-day; and there being no amendment at the end of a week, the dose of the copper was increased to one grain and a half; in another week to two grains; and in three days more (now three weeks since his admission,) to two grains and a half, as the stools varied from six to nine in the twenty-four hours, and were frequently liquid; though a sufficient quantity of solid healthy fæces was daily discharged; he had experienced no tormina nor tenesmus since his admission, had grown strong, and gained flesh. In ten days the dose was raised to three grains, the opium remaining all along at the original quantity. In a week from this period the stools were reduced to three, and in a few days more one only was passed in the twenty-four hours.

He left the hospital June 1st, with a supply of medicine, perfectly well and grown fat, though he had taken only the house allowance of meat every other day, and table beer.

Notwithstanding his stools had been generally bloody and slimy for three months previous to his admission, they were never so during his stay, nor did he ever experience the tenesmus, and but once the tormina.

The following was a case of long and severe diarrhœa.

A Swede, named John Nelson, aged thirty-six, was admitted January 19, 1825. He had been left by his ship, with eight others, on a desolate island in the Indian Ocean, where he remained four years and three months; then went to the Isle of France, and was attacked with dysentery which ceased at the Cape, and returned at Amsterdam. He had now suffered from diarrhœa six months. The motions amounted to twelve in the day and night, were yellow, and attended with pain and scalding.

The sulphate of copper was prescribed in the quantity of one grain, with one grain of opium twice a-day. The dose was augmented to one grain and a half, and subsequently to two grains; and at length one grain and a half, with but half a grain of opium, was given three times a-day. From this time the motions were less copious, and their number in a few days was reduced to two or three in the twenty-four hours, and on March 14, he was considered perfectly well, though he remained some time

longer in the house on account of a diseased tibia.

The next case illustrates the use of the remedy after the failure of others.

A man, named Henry Hurle, aged thirty-seven, was admitted October 6, 1825, on account of frequent bloody and mucous stools, under which he had suffered for five weeks. He had been in the Brazils, the West Indies, North America, and the Mediterranean, but had resided in England for nine years, and worked last at the iron works in Wales.

He was ordered one scruple of hydrargyrum cum creta and one grain of opium twice a-day. The quantity of opium was increased to one grain, to one grain and a half, and finally to two grains; and a half a pint of dec. hæmatoxyli was drunk daily.

On the 15th of November he had not improved, and I prescribed half a grain of sulphate of copper, with but one of opium. The dose of the salt was soon increased to one grain, and that of the opium to one grain and a half.

He was discharged perfectly well on December 22.

Another man, named Aaron Newman, aged thirty-five, who had been in the West Indies, and attacked with dysentery there, was admitted March 23, 1826, for profuse diarrhœa of eight months' standing.

He took one grain of the sulphate of copper, twice a-day, with one grain of opium; then one grain and a half; and then this quantity, with the original dose of opium, three times a-day; and left the hospital quite well April 27.

The last with which I will trouble the society, was one of four years' standing, but at intervals. The man, named John Mundy, was thirty years of age, and the stools were bloody, and not fewer than ten every day.

I prescribed one grain of the sulphate of copper, with one grain of opium, twice a-day.

In five days, as he was no better, he took his medicines three times a-day, and in four more, the dose of the salt was increased to one grain and a half. In a fortnight the stools were reduced to two or three in the day and night, and they never afterwards exceeded this number; they also ceased to be bloody, though formerly they were invariably so. The dose of the salt was augmented to two grains and a half; the motions acquired consistence and their natural frequency; the man felt well and strong, and was discharged on the 18th of May.

I could greatly extend this list, but the narration of cases is always tedious, especially when they are so similar, as such must necessarily be to each other; and the preceding sufficiently illustrate the power of the remedy. I will therefore content myself with mentioning the general results of my experience during the last two years and a half in St. Thomas's Hospital, where a great number of sailors are admitted labouring under intestinal affections consequent upon dysentery in hot climates.

I am satisfied that the sulphate of copper is superior to every other astringent in chronic diarrhœa,—that it will cure the disease more quickly than any other, and often when all others fail.

Three grains three times a-day is the largest quantity I have prescribed; but this I have frequently given. The dose usually borne and required varies from a grain and a half to three grains. It may be taken for an indefinite time without any fear of constitutional ill effects.

I had two very severe cases, in which the quantity of blood and matter in the evacuations, and the wretched appearance of the countenance, rendered the existence of great disease of the inner surface of the intestines probable, and which would most likely have proved fatal but for the remedy. It arrested the complaint after a time, but such had been the severity of the disease, and so much reason was there for apprehending mesenteric affection, and thickening of all the substance of the intestines, that, if it was omitted for a week, the diarrhœa in some measure returned. These patients took it between three and four months, in doses of two and three grains three times a day, with no other effect than that of controlling the disease, and improving the appearance in a degree which surprised every one.*

It certainly has a tendency to produce vomiting and griping. On these accounts I have always combined it with opium, and never but in the first case, and then only for a week and at the cessation of the disease, ventured to exhibit it alone.† No inconvenience resulted, and I have generally found a grain and a half of opium sufficient to prevent even three grains from griping in the least. Notwithstanding the unquestionable co-operation of the opium with the sulphate, the far superior share of the salt in curing the disease has been repeatedly proved by the previous failure of opium alone, or combined with other astringents, and by the dose of opium being actually diminished when the copper was superadded.

The disposition to occasion sickness is much diminished by administering it, like all medicines inclined to disagree with the stomach, and intended to pass the organ without sensible effect, in the form of pill and after food has been taken. A dose of it, as well as of oxymuriate of mercury or tartrite of antimony, which would cause sickness, if taken in a liquid form or before breakfast, will be borne perfectly well, and frequently indeed a much

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* July 21, 1827. I take advantage of the interval which has elapsed before the paper is printed, to add that these men have both recovered, after taking the medicine about six months. Without it, I am convinced that they would gradually have sunk.

† With the first of the patients mentioned in the preceding note, I gradually lessened the quantity of opium till it was omitted altogether, and he took three grains of the sulphate alone three times a-day, for the last six weeks that he was in the hospital.

larger dose, if taken in the form of pill and after a meal.

In thus recommending a medicine for a purpose which, as far as I know, has not been mentioned by any author, I am anxious, as upon every such occasion, however great its excellence, not to excite too high an expectation,—not to appear pretending that it is universally applicable, and that it never fails. In cases only in which astringents are proper is it proper; and although ulceration of the inner coat of the intestines, and very extensive ulceration, will heal,* and the sulphate of copper will contribute to the cure more than any other medicine, the mischief may be irremediable by any measures; and, on the other hand, chronic diarrhœa is frequently kept up by the state of mind, by the mode of living, or by the residence. No medicine can alter these, and I knew two examples of the failure of it and all other remedies, when a removal from town cured the disease in a few days, and a return to the metropolis was invariably followed by a return of the diarrhœa.

From the Lancet.

ANATOMICAL AND PHYSIOLOGICAL REMARKS ON THE MEDULLA OBLONGATA. By Dr. Meyranx.†

It is known that the medulla oblongata is that part which extends from the commencement of the spinal marrow to the corpus striatum. About the middle of its extent, it is surrounded by a circle formed by the cerebellum superiorly, and by the pons Varolii inferiorly. The medulla oblongata has been submitted to experiments in the different parts of this space, and different functions have been ascertained to belong to its successive portions. The protuberance, as well as the cerebellum, which forms the circle of which we have just spoken, divided by an imaginary line which would fall vertically from the centre of the vermiform process to the centre of the protuberance, give two lateral segments, in each of which there exists, according to M. Magendie, a force which impels the animal to turn on the opposite side. These two forces, reciprocally balancing each other, constitute the equilibrium preserved in the standing position. By wounding a hemisphere of the cerebellum, or a half of the protuberance, the equilibrium is destroyed; the animal rolls over on its side, until some mechanical obstacle stops it; this rolling commences on the side injured. To this very singular phenomenon is added, a particular position of the globes of the eyes; that on the injured side being turned downwards and inwards, and that on the other side upwards and backwards. These symptoms are the more marked, as the injury approaches the nearer to the protuberance.

M. Magendie thinks, that below the cerebellum there is another double force, which exists throughout the lateral half of the medulla oblongata; if it be cut transversely, on a level with the fourth ventricle, the animal turns on its feet, and always on the side opposite the injury, with as much precision as a horse goes through the exercise of the riding school.

The same physiologist did not perceive any effects to result from wounding the anterior pyramids, until one of them was cut, together with the entire moiety of the medulla oblongata to which it belongs, and until the medulla oblongata had been divided by a longitudinal section on the median line. After these two operations, he observed that the voluntary motions only were paralysed; this paralysis affected the opposite side of the body.

M. Magendie has never observed any consequence to result from wounding seperately one of the posterior or one of the anterior pyramids. We are now about to give a short account of some disorganizations produced in the same parts, accompanied with very marked appearances, and somewhat different from those hitherto observed.

But before detailing these experiments, we think it necessary to remark the number and disposition of the bundles of the medulla oblongata; the situation of the anterior and posterior pyramids, or the corpora restiformia, is known. Between these two last, two longitudinal columns, almost parallel, are observed on the floor of the fourth ventricles, but which do not separate from each other at an angle, like the corpora restiformia; they are covered, especially in man, with a gray layer, below which is situated a white matter, forming a mass of considerable thicknesss, if that of the anterior pyramids be comprehended. This gray layer, and the subjacent white matter, are generally taken for the posterior surface of the anterior pyramids, but it is an error; it is, in fact, a third bundle, which is perfectly distinct from the two others, and which is called the bundle of the infundibulum, because in the four classes of vertebrated animals, it arises from the corpora albicantia, which always occupy the sides of the infundibulum. It is the junction of these two bundles, that forms that triangular space which is situated between the crura cerebri; this space is bounded anteriorly by the infundibulum, aud posteriorly by the tuber annulare,—though superiorly, on one side of the brain, this triangular layer is continuous with the tuber annulare, then with the anterior pillar of the cerebral triangle; and posteriorly, the substance of this same triangular layer is prolonged into the surface of the fourth ventricle; covered by the point of the *calamus scriptorius*, it re-appears below those limits, at the posterior lateral parts of the spinal marrow.

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* Instances may be found in the writings of Dr. Andral, in Dr. Peter Latham's work upon the disease of the Penitentiary, and in the Journal Général de Médecine of last year. The most extensive, I believe, is related in Mr. Howship's book on Morbid Anatomy:—a very long tract of ulceration was found healed.

† Annales des Sciences Naturelles.—Aôut, 1827.

We think that this is the bundle mentioned by Mr. C. Bell, to which he refers the nerves of the respiratory system. It cannot be followed lower down in the substance of the spinal marrow, such is the intricacy of this part, or at least this investigation can only be made in the fœtus. The anatomical part which we have just specified, is not very easily discriminated in the adult, but is made very evident by a vertical section along the whole length of the spinal marrow of a new-born child, but still more so at the age of three months and a half. The reason of this is, that, at this period, the the nuclei of the three bundles in question are white, and all the other parts are gray.

It is on the bundle of the infundibulum that a great part of the glosso-pharyngeal and par vagum arise; lastly, the sympathetic derives a very distinct root from it; it is that which the lateral bundles of the valvula vieusseni furnish. These last bundles are a part, or continuation, of the posterior cords of the medulla. These details are necessary to understand the motion of the eyes, to which we shall allude in the following experiments. It is known that Mr. C. Bell has proved, that the two obliqui, to which the fourth and a filament of the third pair go, fulfil the functions in the involuntary motions of the eye, functions related to those of respiration.

In our first experiment, we laid bare the brain of a young rabbit, and raised the greater part of the left hemisphere, without any other symptoms except blindness of the right eye.

At the end of half an hour we determined to wound the thalami nervorum opticorum, which was concealed till now by the posterior part of the hemisphere. The scalpel having been plunged into its direction, the animal carried its head strongly backwards, then brought it to the position just described, but the equilibrium was lost; the eye on the injured side was fixed downwards and inwards, the eye on the opposite side was fixed in an opposite direction; the whole of the cervical region was flexed obliquely on the side injured; lastly, it rolled over, commencing on the injured side, and continued turning until stopped by some mechanical obstacle. The rest which accompanied this motion, always took place on the healthy side. We recognised the symptoms described by M. Magendie, and we thought we had wounded the left side of the protuberance.

The post-mortem examination enabled us to perceive that we had reached, in fact, the thalami nervorum opticorum, as we intended; but not having exactly calculated for the inclination from before backwards, at which the brain rests on the base of the cranium, the point of the scalpel had traversed the upper half of the corpora quadrigemina, and had penetrated into the substance of the left half of the protuberance; but the bundle of the infundibulum had been traversed. It will be seen that the results are the same, and that the experiment only differs in our having wounded the protuberance at the superior surface, by cutting across other parts, whilst M. Magendie wounded it at the inferior surface. The wounding separately of the thalamus nervi optici, as well as that of the corpora quadrigemina, was not followed by these symptoms.

It occurred to us, on account of the origins of the sympathetic nerve, and the direction of the bundle of the infundibulum, to make an experiment seperately on the parts which we had traversed before arriving at the protuberance; we wished also to inflict the same injury on the inferior half of the arch, that is to say, on the cerebellum, as we had on the protuberance.

We began by the superior part; with this view, we raised very nearly a line of the left parietal bone, close to its posterior edge, and also close to the suture, which joins it to the occipital bone. Now the anterior extremity of this last bone is precisely on the line which separates the cerebellum from the cerebrum; we pushed through this small opening the fine blade of a pen-knife through the whole depth of the cerebellum; we took care to incline the instrument from before backwards and downwards, to avoid the corpora quadrigemina, which were not touched; then raising and withdrawing the instrument at the same time the concave edge and the point of the blade would cut the whole substance of the cerebellum, without having penetrated the fourth ventricle: the division was effected precisely on the sulcus which separates the processus vermiformis from the middle lobe from the whole external part of the cerebellum.

The symptoms which followed the section of the protuberance, were slightly marked. The animal preserved the standing position in a less firm manner, and almost crawling, he always preferred the injured side, and if he did not roll over, at least when he fell, it was always on that side; but his eyes preserved their natural position.

The blade of a straight and pretty large scalpel being pushed by the same foramen in a direction and at an angle perfectly the same, till the base of the cranium stopped the point, the animal carried its head so far back, that the occiput rested on the middle dorsal vertebræ. It kept this position with a tetanic rigidity; the position of the eyes, which had not been altered till now, changed; they were both drawn upwards and backwards; the inferior extremities were extended and rigid; they were deprived of voluntary motion, and even to a certain degree of sensibility, for they only moved when they were pricked, and even that only once when this kind of excitement had been used three or four times; when they were flexed, they quickly returned to extension.

The superior extremities presented a motion not before observed; it was not that of progression, for it was alternate, very quick, and not interrupted. Now, the rabbit limped rather than walked; we want words to express so uncommon a sight; it could best be compared to the alternate motions of their paws, which cats make in purring when they are

caressed, and which is vulgularly called *making a loaf*, because it resembles the kneading of the baker. This state lasted two hours, without interruption; it gradually ceased with the strength of the animal; we then opened it.

The whole floor of the fourth ventricle was entirely disorganized; which comprehends the two bundles of the infundibulum to an extent of ten lines across the *tubercule* of the *nates*. The two anterior pyramids were also affected, though not so strongly, for the point of the scalpel was passed out between them in the middle of the sulcus which separates them, about three lines lower down than the tuber annulare, immediately below the corpus trapezoides, and between the nerves of the sixth pair. These experiments were repeated many times following with the same precision, which is not difficult, when the operator is acquainted with the anatomy of the young rabbit, and when he uses the same instruments, taking care to operate on animals of the same age and size. This we effect, by procuring a whole litter.

We obtained the above mentioned symptoms four times, with this single difference, that those of the anterior limbs, that is to say, the rigidity, were transported to the inferior limbs, and *vice versa*, the extension with rigidity and insensibility being transported to the anterior limbs. Both the eyes remained, moreover, in their natural position; in the former injury of the fourth ventricle, they were simultaneously drawn upwards and backwards; there was only this difference in the injury, that, in the second case, the blade of the scalpel had traversed the medulla on a level with the *calamus scriptorius*, that is to say, a little lower down.

From the preceding facts, we may conclude,

1st. That when the fourth ventricle is wounded to a great extent,—that is to say, when a bundle of the infundibulum and half of the protuberance are wounded, we have the loss of the upright position, and the lateral rotation of the body; and, moreover, the adverse position of the two globes of the eyes.

2d. When the cerebellum only is divided throughout its whole substance, but without touching the fourth ventricle, we observe only that the symptoms decrease in the injury of the protuberance; viz. direction of the animal on the side injured, progression slow and as if crawling, uncertainty and difficulty of preserving the equilibrium, falling and half supination on that side; but moreover, natural position of the eyes.

3d. If it be disorganized immediately beneath the protuberance and the fourth ventricle, that is to say, the two bundles of the infundibulum, and a little of the two anterior pyramids (the corpora restiformia always remaining perfectly untouched,) we obtain symptoms as before described: incomplete paralysis, with rigidity and extension of the inferior limbs; curious motion of the superior extremeties.

4th. Lastly, an injury, similar to the last, performed on a level with the *calamus scriptorius*, has no influence on the motion of the eyes, although it produces symptoms of the superior and inferior extremities, but without transposition of those observed at the inferior extremities, on the superior and *vice versâ*.

If we duly appreciate the facts above stated, it will be evident that we shall be justified in concluding, the medulla oblongata is not one composed of two halves only, but that each of the two halves which constitute its body, is itself composed of three columns or bundles, the properties of which are different.

The equilibrium and parallelism of the eyes depend on the state of the middle bundle, or of the infundibulum; when one of these bundles is wounded, the two globes of the eyes are drawn unequally, and in a different direction. When these two bundles are disorganized on the level of the fourth ventricle, the eyes are deranged in a uniform manner. Lastly, when the fourth ventricle is traversed at its most inferior part, or beneath the *calamus scriptorius* (it is the spot where the two bundles of the infundibulum leave this ventricle, to occupy the external lateral parts of the medulla,) then the injury only affecting the anterior pyramids, the eyes do not change their position. This last circumstance shows, that the anterior pyramids have nothing to do with the effects to which the above mentioned experiments have given rise to relative to the eyes. It is, moreover, very difficult to wound these pyramids by their anterior surface; we can only effect it by introducing an instrument curved at its extremity, into the space which separates the atlas from the occiput. Neither the posterior pyramids nor the cerebellum were concerned in the experiments. It was the bundle of the infundibulum, the injury of which produced the phenomena which we have now detailed. It is from this bundle that the sympathetic nerve principally arises. Now, according to Mr. Charles Bell, the eyes are put in the position before described by means of the obliqui, one of which receives the fourth pair.

From the Quarterly Journal of Science, Literature and Art.

ON THE MEANS GENERALLY USED WITH THE INTENTION OF CURING A CURVATURE OF THE SPINE.*

When the chest and head fall forward, the most common method of trying to correct the stoop is to put on some instrument by which the shoulders and the head are held back. To operate upon the shoulders, the common back-collar is applied, and to hold back the head a riband is brought over the forehead and fastened to the collar.

While these instruments are kept on, the

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* For this, and some other communications upon the same subject, we are chiefly indebted to our much lamented friend and correspondent, the late Mr. Shaw, surgeon to the Middlesex Hospital.

figure looks straight, though stiff and constrained; but the moment they are taken off, both the head and the shoulders fall more forward, than before their application. Many examples of the bad effect of artificially supporting the head might be offered. The following, although observed in the figure of a horse, is very demonstrative. When the rein, (called the bearing rein,) by which the head of a carriage-horse is reared up, with the intention of giving him a showy figure, is loosened, the head immediately falls forward, and the neck, instead of preserving the fine arch that is so much admired, droops between the shoulders. Looking to this effect, we should at first be inclined to condemn the practice followed by horse-dealers, of reining up the head of a young horse in the stable, by means of the apparatus called a dumb-jockey. But on examining into this mode of fixing the head, it will be found to operate on a different principle from the bearing-rein. Instead of a simple bit, such as the horse in harness can lean his head upon, without suffering pain, a bit, calculated to tease and fret, is put into the young horse's mouth. To relieve himself from the irritation produced by this, and which is increased by the constant pull of the elastic piece of iron to which the rein is fastened, he curls up his neck, and thus brings all the muscles of the back of the neck into strong action, instead of allowing their power to be superseded by the artificial support afforded by the bearing-rein to the horse in harness.*

Many different contrivances, but all acting nearly on the same principle as the *bearing-rein*, have been proposed as means for obliging a girl to keep her head erect.

There is one mode, which, to a person ignorant of anatomy, seems to be particularly well adapted for this purpose; but it is, in fact, more objectionable than the plan of tying the head back with a riband. A piece of lead, of some pounds weight, is slung over the back in such a way that it must be supported by a riband put around the head.

Although this contrivance prevents the head for a time from falling forwards, its bad effects may be demonstrated. When the weight is on, the muscles of the back of the spine are passive, while those on the fore-part of the neck are necessarily brought into action to prevent the head from being pulled too far back: this is easily proved; for if we put the fingers on the sternal portions of the sterno-cleido muscle, which, with the small muscles on the fore-part of the throat, pull the head forwards, we shall feel them tense and in action. The increased activity of the muscles on the fore-part, and the passive condition of those of the back, may be further exemplified by raising the weight when the girl is not aware of our doing so; the head will then be immediately poked forwards.

We have many opportunities of observing the incorrectness of the principle on which all similar plans for the cure of a stoop have been founded. For instance, porters who carry burdens on the back, by the assistance of a band round the forehead, always stoop; while those who carry baskets before them suspended by a band round the back of the neck, are peculiarly erect. But the most remarkable example of the effect of the head being pulled back by a weight hung behind, is the condition of the women who carry salt in the streets of Edinburgh, for they may be recognised as much by their miserable Sardonic grin, which is caused by the constant excitement of the platysma myoides muscle, as by their stoop.

Very annoying and even distressing consequences may ensue from any system of treatment where a constant resistance to the muscles of the fore-part of the neck is kept up. A gentleman had for many years worn one of the collars invented by Mr. Chesher; after some time, the muscles of the back became so weak, as to be incapable of supporting the column, while those on the fore-part of the neck were so disproportionately increased in strength, by the constant resistance opposed to them by the strap passing from the suspending rod under the chin, that whenever the strap was loosened, the chin was forcibly drawn towards the chest. As the muscles of the back-part of the neck did not offer any counteracting resistance, the windpipe was now pressed down, or almost doubled on itself. As soon as this took place (and it was almost immediate on the attempt to sit up without the collar,) the patient was seized with such a sense of suffocation, as to be obliged to throw himself on his back. As he was able to breathe with ease as he lay on his back, his advisers were led to believe that it was the weight of the head which pressed down the windpipe. To counteract this pressure, various contrivances had been proposed to support the head. Indeed, the patient himself was so convinced, from what he had heard, that it was the weight of the head which pressed down the windpipe, and so alarmed had he become from the certainty of having a fit of suffocation when the head was left unsupported, that there was much difficulty in persuading him to believe that if the head could be made *heavier*, the sense of suffocation would be relieved. He was at length induced, although with great dread of the consequence, to allow about fourteen pounds of shot to be placed on the top of his head. He was very much alarmed, but it was highly gratifying to witness his surprise and pleasure in finding that, instead of his head being weighed down, he could support it, and could breath with ease while in the upright posture.

* When the Russians wish to give a horse high action in trotting, they accustom him, while young, to wear heavy shoes on the fore-feet. The resistance to be overcome necessarily increases the strength of certain muscles; and hence, when shoes of the common size are put on, the horse lifts his feet higher than one which has not been subjected to this discipline.

The following is the principle on which this plan was proposed:—the muscles of the back-part of the neck had been brought into such a state, that their ordinary stimulus was not sufficient to excite them to the action necessary to counteract the efforts of those on the fore-part of the neck, which had been evidently increased in strength. The placing a weight on a certain spot on the head formed an additional stimulus to the muscles of the back-part of the neck; a fact which the reader may prove by an experiment on himself.

By proceeding on this principle, by combining a variety of exercises, and by gradually diminishing the weight carried on the head, this gentleman was soon able to walk and sit in a state of great comfort, without being obliged to use any artificial support.

It is well known, that the neck-collars support almost the whole weight of the head and shoulders by the strap which passes under the chin. It must also have been observed, that the wearer very frequently pushes down the head against the chin-strap. In this way, the muscles on the fore-part necessarily become stronger, while those of the back, being deprived of their natural stimulus to action, in consequence of the rod superseding their office, become diminished in power. Even were there no change in the degree of strength in the muscles on the fore-part, the head would naturally fall, if the support afforded by the chin-strap were removed; but as these muscles are increased in power, while those of the back are diminished, the head must not only fall, but even be pulled down.

However, although the collars and the lead weight, as they are generally used, are not only inefficacious, but even hurtful, they may occasionally be useful in keeping the head in a certain position, after it has been brought to it by such exercises as tend to strengthen those muscles of the back which support the shoulders and head. But the opinions commonly entertained, as to the means of counteracting an habitual stoop, are so erroneous, that even the position of a tailor sitting on his shop-board is better than the plans generally recommended. This at first appears ridiculous; but the manner a tailor holds his body when he walks, proves that there is something in his habits which tends to the correction of a stoop; for he is quite a caricature of a strutting erect figure, especially in the way he bends in his loins and carries his head.

The peculiarity of the tailor's gait proceeds, in a certain degree, from the bent position in which he sits: but this explanation is not at first satisfactory, since it may be observed that other tradesmen, who also stoop while at work, generally have their head inclined forwards, and have also a distinct and habitual bend in the neck; such, especially, is the condition of persons who sit at a table and stoop forwards, as watchmakers, engravers, &c. It is not difficult to explain the cause of the difference, and the inquiry will assist in directing us to the principles which we ought to recollect in our operations upon the spine.

In the sitting position of the tailor, the head hangs so low, and so complete an arch is formed between it and the pelvis, that the muscles of the spine are called into strong action to support the head; the necessary consequence of this is, that these muscles become even unnaturally strong, or at least so strong as to predominate over those by which the spine is pulled forward. But the bent position is not the only cause of increase in the strength of the muscles, for it depends also on the exercise given by frequently jerking the head backwards. In those who stoop from the middle of the body, as in writing or working at a table, the muscles of the spine are not called into action; for, while the head is in this position, it rests or is supported by the ligament of the neck. The ligament, being thus kept constantly on the stretch, becomes lengthened, instead of being made more contractile, as muscles would be; and hence the stoop is increased. When this is combined with the consequences of the want of muscular action, the deeper ligaments, which bind the upper vertebræ, gradually yield; if the operation of these causes continues for a certain time, the bones and cartilages themselves become altered in shape, and consequently an almost irremediable stoop is produced.*

This view derives confirmation, from what may be observed in the shape of the tailors in some parts of Germany, who, instead of having the erect figures of London tailors, are quite bent. On inquiring into the cause, we find that, instead of sitting as tailors do in this country, a hole is cut in the table, and a seat is placed within it; so that their position, while working, becomes nearly the same as that of persons who stoop while sitting at a table.

It may, perhaps, be objected, that labourers, and especially the vine-dressers in France, are remarkable for the complete arch which their body forms, although they bend while at work as much as the tailor does. This may also be explained; for in the labourer the bend is produced by the pelvis rolling on the head of the thigh bones, while in a person sitting as a tailor the pelvis continues nearly fixed, and the bend is in the vertebræ on the pelvis.

The erect figure of the Turk perhaps comes from the manner of sitting which is common among Eastern nations; but the heavy turban, and the spice box slung from the back of the neck, may account in a great measure for the fine figures of the Turkish Jews who frequent the streets of London.

We may even take the shoemaker as an example of the effect of a particular manner of sitting, and of frequently using the muscles of the shoulders. He is also a little in caricature,

* Elderly persons may recollect how often the girls who worked at *tambouring* were crooked: the present fashionable amusement of embroidering seems to have, in some instances, the same effect.

but he carries himself better than the tailor, and the cause is obvious. The tailor's figure is very erect, but the right shoulder is generally a little higher or larger than the left, from the constant exercise given to the right arm, while the left rests upon the knee: this inequality of the shoulders is not observed in the shoemaker, because he not only uses both arms equally, but the muscles by which the scapulæ are supported, become so strong by the habit of jerking back his elbows while he works, that his shoulders always appear more braced back than those of any other class of persons: indeed, so characteristic are the figures of tailors and shoemakers, that they may be easily distinguished in a crowd.

These circumstances are mentioned, as they afford familiar examples of the principles on which we ought to proceed, in endeavouring to correct deformities; but it would be ridiculous to propose the position either of the tailor or of the shoemaker, as the best adapted to correct a stoop or falling forward of the shoulders.

The preceding observations apply also to the contrivances usually employed to keep the shoulders back, and particularly to the question of the propriety of using the common back-collar.

The part of the back formed by the ribs is not a flat, but rather a round surface; and as the shoulder-blades rest on this, they would fall forwards were they not prevented by the collar-bones; but as these bones are united to the breast-bone by a moveable joint, and as the weight of the arms operates principally on the interior angles of the scapulæ, both the collar-bones and the shoulders would fall forwards, were it not for the action of several strong muscles which pass from the spine to the scapulæ. But these muscles may be destroyed by any contrivance which supersedes their use; they waste, and become nearly useless, while those on the fore-part of the chest, being excited to resist the straps, will become increased in power; and hence, when the collar is taken off, not only will the shoulders fall forward as in a delicate person, but the muscles on the fore-part of the chest will predominate over those by which the scapulæ should be held back, and *pull* the shoulders forwards.

The spine and the ribs are occasionally bent so as to have some resemblance to the back of a spoon. In such cases, the shoulders not only appear high and round, but the lower angles of the scapulæ project in an extraordinary manner, because the upper and anterior angle is not only unsupported by the ribs, but is dragged forwards by the clavicles which are carried in the same direction with the sternum. When this is to a considerable extent, it constitutes the *contracted chest* or the *chicken breast.* This, in a slight degree, is common in London, and especially among young lads; it may be discovered by the coat having the appearance of being worn more opposite the lower angle of the scapula than at any other part. Such a condition of the chest can only be completely remedied by appropriate exercises; but a collar is here necessary for a time, to keep the bones in the improved condition into which they are brought by the exercises.

These arguments will probably appear sufficiently well founded to prove that a girl, under ordinary circumstances, cannot hold her head or shoulders back, unless the muscles by which they are naturally supported are in a proper condition. Various contrivances have been proposed to strengthen these muscles. Dumb bells, if managed in a particular manner, are good; skipping, when the arms are thrown backwards and over the head, is still better; the exercises, called Spanish exercises, performed with two long poles, are also useful; but to each of these there may be objections, as they all operate more or less on the spine or ribs, which, in case of a bad stoop, are generally affected.

The following anecdote will, perhaps, set the question of the propriety of wearing the back collar in a correct point of view. A surgeon was consulted by a gentleman, who is now one of our first tragedians, as to the best mode of correcting a stoop which he had acquired. The surgeon told him that neither stays nor straps would do him any essential good, and that the only method of succeeding, was to recollect to keep his shoulders braced back by a voluntary effort. But the tragedian replied, that this he could not do, as his mind was otherwise occupied. The surgeon then told him that he could give him no further assistance. Shortly after this conversation, the actor ordered his tailor to make a coat of the finest kerseymere, so as to fit him very tightly, when his shoulders were thrown back. Whenever his shoulders fell forward he was reminded by a pinch under the arms, that his coat cost him six guineas, and that it was made of very fragile materials; being thus forced, for the sake of his fine coat, to keep his shoulders back, he soon cured himself of the stoop. The surgeon was much obliged to him for the hint, and afterwards, when consulted whether young ladies should wear shoulder straps, permitted them, on condition that they were made of fine muslin, or valuable silk, for tearing which there should be a forfeit.

An inquiry into the manner a girl should sit, may appear trifling to those who have not been in the habit of seeing many cases of distortion of the spine, but it is intimately connected with the present subject, and is really of considerable importance. The question has been disputed; one party insisting that girls should alwas sit erect, while others are advocates for a lounging position. It is not difficult to show that both are wrong;—when a delicately formed girl is supposed to be sitting erect, she is generally sitting crooked: to a superficial observer she may appear quite straight; but any one who will sit on a music stool, and endeavour to keep his body in a perpendicular line for ten minutes, will be convinced that it is difficult for even a strong

man, to sit as long as a delicate girl is expected to do, without allowing the spine to sink to one side or to fall forwards.

The attempt to sit erect beyond a certain time is injurious, for although bending the spine occasionally, is useful rather than hurtful, yet when it is done involuntarily, and when the bend is attempted to be concealed by an endeavour to keep the head straight, there is danger of the spine becoming twisted. Indeed, a double curve is generally the consequence; there is first a bend to one side, to give ease to the fatigued muscles; and then, to conceal this, there is a second curve that is necessarily accompanied by a slight twist in the vertical line of the whole column.

The proposal to allow children to sit in a crooked or lounging position, seems to have been founded on the idea that all the muscles are more relaxed in this way, than even when the child lies at full length on its back. This notion is certainly incorrect, and such a mode of sitting is injurious; for even were the muscles more relaxed by it, the bones and ligaments acquire such a shape as necessarily produce distortion.

It may naturally be asked how a girl should sit, since it would appear, that whether she is in an erect or stooping posture, she is equally in danger of becoming crooked. As sitting, in the manner generally recommended, affords little or no support to one who is weak, the safest answer would be, that a delicate girl should not sit for even more than five or ten minutes, without having some support to her back, and when she is fatigued, that she should lie down or recline on a couch. But as it would be very annoying to a girl, not to be allowed to sit up except for so short a time, and as a couch is not always at hand, we must endeavour to show how a delicate girl may remain in an upright posture for a reasonable time, without incurring any risk of becoming crooked. This leads to an inquiry into the merits of the chairs, which are at present generally used by children.

Young ladies are often obliged, while at their music lessons, to sit upon those chairs, which have high backs, long legs, and small seats. These chairs are said to have been invented by a very eminent surgeon, and are intended, either to prevent distortion by some supposed operation on the spine, or as the most effectual means of supporting the body. It is difficult to imagine, how a chair of this description can effect the first purpose; and to discover how far it is calculated for the second, the reader should make the experiment on a chair of the same proportion to his figure, as the chair in question is to that of a little girl. He will find that if the seat or surface on which he rests is small in proportion to his body, the chest will, after a time, either fall forward or to one side, unless he exert himself to a degree that is very fatiguing. Indeed, if the seat be at the same time so high, that the feet do not rest fairly on the ground, but dangle under the chair, a forward position of the head is almost necessary to preserve the balance of the figure.*

The objections to such chairs have been met with the assertion, that girls feel remarkably comfortable in them. This is no argument in favour of their use, for it is not uncommon for a girl, who has seven or eight pounds of iron strapped upon her body, and next to her skin, to say the machine annoys her so little, that she does not care how long she wears it.

But whether this chair is agreeable or not, it is easy to show that it is not calculated to give much proper support to the body, and that it is almost impossible, for a delicate girl to sit long in a natural or easy position upon it.

It may be allowed, that the chair which we consider the most comfortable, that is, the chair which affords the most support to the body, should, if made in proper proportions, be the best for a delicate girl. In such a chair, the *seat* should be scarcely higher than the knees, (thus permitting the whole of the foot to rest on the floor,) and of such a size, that on sitting back, the upper part of the calves nearly touch it. This form of *seat* is very different from that of the chair alluded to, the *back* of which is also equally objectionable, for, instead of being in some degree shaped to the natural curves of the spine, it is made nearly straight, and projects so as to push the head forwards. A delicate girl should always sit so as to rest against the back of the chair, and, if the lower part of her spine is weak, a small cushion will afford great relief. As it is quite a mistake to suppose that the shoulders, if raised in any other way than by the action of the muscles, or by the curvature of the spine and ribs, will continue high, there is no real objection to a girl who is delicate being supported by an arm-chair; for, by occasionally resting on the elbows, a considerable weight is taken off from that part of the spine which is the most likely to yield.

These observations refer only to the manner in which delicate girls, whose spines are still straight, should sit: when the spine is actually distorted, it will be necessary to use other means.

From the Medico-Chirurgical Review.

NEW METHOD OF TREATING SYPHILIS. By Dr. C. H. Dzondi, Professor in the University of Halle.

Professor Dzondi, from an experience of ten years, comes to the conclusion that the best method of treating syphilis, is not by small doses of mercury gradually introduced into the system, but by large doses quickly administered. The fundamental principles of this new method are these:—1mo. That mercury is a dangerous poison, the effects of which are

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* It must be almost unnecessary to remind the reader, that if the knees are bent in standing or walking, there is a curve in the spine at the same time.

much more difficult of cure than the most inveterate syphilis. 2ndo. That mercury is indispensable in the cure of the disease, in all cold countries; and is only poisonous when exhibited in a certain manner. 3tio. That the present mode of administering the remedy is, in general, inadequate to the complete eradication of the disease, except in cases where the virus is mild. In cases where it is otherwise, it either aggravates the malady, palliates the outward symptoms, or masks the disease from view. 4to. That the oxymuriate of mercury, properly prepared, is the best form of the remedy. Professor D. begins with about half a grain of the sublimate for a dose, (per diem,) and increases it to two or three grains daily. He is convinced that a large quantity may be taken in small doses, without ultimate cure; while a small quantity given in large doses will be speedily effectual. He gives the medicine immediately after taking food, and never on an empty stomach; sometimes combining opium with it, when pain is complained of in the stomach or bowels. He does not consider it necessary to make any change in the *kind* of food which the patient takes during the course. Salivation rarely takes place under this mode of treatment. The duration of the course is generally four weeks, during which, the action of the skin is to be promoted by warm air, warm clothing, and confinement to the bed-room in cold weather. In summer, and in very fine weather, the patient may be permitted to go out for an hour or two in the middle of the day. In order to quicken the action of the absorbents, and thus to diffuse the remedy as rapidly and as extensively through the system as possible, the patient is to take no more food than is absolutely necessary for the support of life. He does not particularly object to alcoholic, or other stimulating drink, in moderation. Sarsaparilla he considers the best auxiliary to the mercury; but by no means adequate to the cure of the disease by itself, especially in northern climes.

The above practice appears to be a modification of that which has been tried and recommended by some surgeons in this country—we mean Mr. John Cunningham and Mr. James Boyle, surgeons in the Royal Navy. They gave calomel in 20 grain doses twice or thrice a day, so as rapidly to affect the system, when the syphilitic symptoms were found quickly to give way. We leave it to our surgical brethren to think on these proposals, based as they are on experience. The high character of Professor Dzondi guarantees the authenticity and veracity of any thing proceeding from his pen.

From the London Medical Repository and Review.

REPORT OF SOME OF THE MORE IMPORTANT MEDICAL CASES TREATED AT THE KENT AND CANTERBURY HOSPITAL. By H. W. Carter, M. D. F. R. S. E. Fellow of the Royal College of Physicians, London.

1. Case of Malformation of the Heart.

Richard Patmore, æt. 24, by trade a bricklayer, was admitted January 27th, 1826, labouring under the following symptoms:—Palpitation; shortness of breath; much distress in ascending a flight of steps, or climbing a hill, or indeed upon any exertion more than usual. Troublesome cough, with copious expectoration; countenance of a purplish hue; lips very dark; expression anxious; pulse regular—about ninety; tongue furred; urine scanty; bowels tolerably regular; disposition to anasarca of lower extremities. Complaints had been coming on for some time, and he had been under medical treatment; but had not entirely relinquished work till within a few days of his coming to the hospital. He was bled to the amount of ten ounces; an issue was made in the left arm; and the following draught was directed thrice a day: ℞. Infusi Digital. ℥ss. Mist. Camphor. ℥j. Olei Anisi, gutt. ij. M. fiat haustus.

February 2d. The cough and expectoration were diminished; pulse considerably affected by the digitalis, which was therefore discontinued. The patient afterwards had leeches to the chest, and took demulcent and other medicines, which I forbear dwelling upon, since they appeared to be of little or no service. He however improved by rest and quiet, and was discharged March 6th. On the 17th of the following November he again presented himself at the hospital. The symptoms already enumerated had become more urgent, excepting that the cough was now unaccompanied by expectoration. There was distressing sensation of faintness at intervals; fluttering of the heart, and at the epigastric region; inability to bear the recumbent posture; sleep disturbed by frightful dreams. Examined with the stethoscope: the action of the heart was very perceptible over the whole of the chest; impulse considerable, sound very loud, so much so, that in several attempts I could not ascertain the state of the respiration.

Blue pill, with Squill, and extract of Conium, night and morning. Inf. Digital. ℥iij. Mist. Camphor. ℥vij. Sp. Æther. Nitr. ℥jss. Tinc. Card. C. ℥j. twice a day; a blister to the chest; laxative draught occasionally.

The effect of these medicines was to increase very considerably the quantity of urine; to remove the anasarca of the lower extremities; and to render the patient altogether more comfortable. The pills were discontinued on the 24th, as his mouth was getting sore, and the oppression of the chest being greater, with some pain, eight leeches were applied.

27th. Distressing fluttering about the heart, and oppression of breath have come on for the last two nights as he has been getting into bed, and have continued till four o'clock in the morning.

Mixture continued during the day; Camphor mixture with Sp. Æther. Nitr. ℥j. Tinc. Hyoscy. ℥j. Syr. Papav. ℥j. at night.

From this last date, to December 3d, there was little alteration in the symptoms; on that day the patient was again bled to ten ounces, as he complained of increased oppression, and his countenance was much loaded. The mix-

ture, with inf. digital., having occasioned nausea and vertigo, it was, on the 13th, discontinued; afterwards diuretics variously combined, and occasional antispasmodics were given; and, lastly, he took a dessert spoonful of white mustard seed twice a day, and five grains of blue pill, with eight of dried subcarbonate of soda, and four of extract of hyoscyamus at night. It may be thought extraordinary that I should, in this case, have prescribed the mustard seed. I did so because the patient at that time complained chiefly of a sensation of cold at the stomach, and of indigestion. That organic disease of the heart existed was evident enough; but the distressing symptoms of that disease were now absent, and the patient's chief annoyance was dyspepsia. I thought this annoyance might be mitigated by the remedy in question, and it certainly was mitigated. On the 30th January the man was, as nearly as possible, in the same state as when he first became my patient, a year before. That he would one day die suddenly I was convinced, but the fatal event might be distant. It was therefore necessary to discharge him from the hospital, and he quitted us with an injunction not to return to his employment, as he seemed disposed to do, and to be careful as to his diet, and the state of his bowels.

Whether he attended to the directions which were given him, I am unable to say; but early in March I received from Mr. Sankey, of Dover, who had attended the poor man before he came to Canterbury, the following statement:—

"I was not aware," says Mr. Sankey, "of his (Patmore's) return home till thirty-six hours before his death, when he requested me to call. I found him, as I had frequently seen him before, labouring under most distressing dyspnœa, livid lips and nose; coldness of the surface; pulse scarcely to be felt; very irregular action of the heart; he was also slightly delirious. The time of my visit was in the evening. On the following day he sent word that he had passed a bad night, but felt better; on the following night he told his wife to go to sleep, as he hoped soon to do himself. She awoke in a few hours, and found him dead by her side.

Examination after Death. The head was not examined.

Thorax. Right lung universally adhering to the pleura costalis, but free from disease. Left lung gorged with blood; the inferior lobe larger than natural; air cells distended and enlarged, and one or two air vesicles attached to the edge of the inferior lobe.

Heart enlarged, particularly the right auricle, which, together with the right ventricle, was distended with blood, and contained several large false polypi. In the septum ventriculorum a small aperture was discovered at its upper part, which just admitted the end of the smallest bougie, but was not large enough to admit the bulb of a silver probe. Just over the aperture was a little valvular formation, apparently an attempt of nature to remedy the defect. The valves were all in a natural state.

The abdominal viscera were all healthy. The liver rather larger than ordinary.

2. CASES OF ENURESIS.

1. Stephen Huckstep, æt. 16, labourer, was made out-patient, December 30th, 1825. He had from childhood been subject to incontinence of urine in the night time. He had seldom retained his water for above two or three nights in succession, and, for the last three months, not one night had passed without his wetting his bed. He was a pale weakly looking subject. A blister was applied to the perineum, and fifteen drops of tincture of cantharides, with a scruple of compound tragacanth powder were given thrice a day in camphor mixture, for a week, but without any beneficial result. The dose of the tincture was then increased to twenty drops, half a scruple of Dover's powder was given at bed time, laxative pills as occasion might demand, and a blister was applied to the public region. At the end of the second week there was no improvement: I now determined to make trial of tincture of iodine, as a tonic, and the patient was directed to take six drops in a little water three times a day, and a laxative draught twice a week. On the 20th, viz. a week from his commencing the tincture, he was rather better. The dose of the medicine was increased to ten drops, and a second blister was applied over the pubis.

February 3d. Enuresis had occurred but twice in the preceding fortnight; and, he said, he never remembered having been so long free from his troublesome complaint. His general appearance was wonderfully improved. Pergat.

February 23d. No recurrence of the disease; health greatly improved; countenance florid; strength increased; he considered himself quite well, and was, accordingly, discharged.

2. Encouraged by the event of the preceding case, I adopted a similar plan of treament in that of a lad, by name John Wraight, who had once before been under my care, as an inpatient, for affection of the kidneys and bladder, attributed to a blow. He got considerably better, but soon relapsed. February 18th, 1826, he was again admitted as out-patient. He complained of a good deal of pain over the region of the bladder, and of the back; he was unable to retain his urine by night or by day; the bowels were in an irregular state, not acting satisfactorily, but their contents passing in small quantities, and very frequently, and without the patient's being able to control their evacuation. The lad's general health was much impaired; he was pale, feeble, emaciated. Clysters of cold water, which had formerly been of decided benefit, were resumed, and, after the application of a few leeches to the hypogastric region, he took five drops of tincture of iodine in distilled water, with a little simple sirup, thrice a day; castor

oil, and the compound rhubarb pill were given occasionally.

23d. A large quantity of red sand had been passed during the week. The pain over the bladder was relieved; the dribbling of urine much less; pulse natural; tongue clean; bowels regular. Perstet et appl. abdomini emplast. riborans.

March 3d. Incontinence of urine has ceased. Sumat Tinct. Iodin. gutt. viij. bis die.

24th. Urine passed in sufficient quantity, and in a full stream, about three times in the day; no sand comes away, nor is the urine high coloured; no fulness or tenderness whatever over the region of the bladder; bowels rather costive. General health materially improved. Sumatur Tinct. semel die.

April 14th. Discharged cured.

This lad afterwards went into service, and when I last heard of him, i, e. October 11th, 1827, was free from complaint.

3. CASE OF DIABETES, WITH DISEASE OF THE LUNGS AND OF THE LIVER.

Daniel Parker, æt. 36, mariner, was admitted in-patient, February 24th, 1826. There was considerable enlargement of the liver, and induration, especially of the left lobe; cough, with expectoration, and dyspnœa, much increased upon exertion. He had, from the nature of his employment, been in the habit of drinking spirits, though not to excess. The affection of the liver being the chief complaint noticed by the patient, as well as by the medical man who had previously attended him, my attention was mainly directed to it. Mercurial ointment was rubbed in, blue pill taken every night, and inf. gent. c. with sodæ carbon. thrice a day. The cough left him, and respiration became more easy in a few days, and, upon the mouth becoming sore, the liver disease seemed to be much relieved. On the 11th March, however, I learned that the man had, for above a twelvemonth, been in the habit of passing a much greater quantity of urine than was natural. He was now desired to measure the quantity voided in the twenty-four hours, and, from the eleventh to the fourteenth, it amounted to ten pints daily, while the liquid ingesta were only six, or at the utmost eight pints. The urine was pale, very perceptibly sweet, frothy on the surface after it had stood a long time. The patient being questioned more minutely than before, stated that he had pain about the region of the kidneys, that his thirst was great, appetite craving—that he was troubled with heartburn, had entirely lost the venereal appetite, was much disturbed at night, owing to the frequent calls to pass his urine. There was no excoriation of the prepuce, nor did the gums appear affected. The pulse was at this time frequent, and rather small; tongue clean; bowels inclined to be costive. Sumat. Tinct. Iodin. gutt. vj. ter die, et Sodæ Phosphat, ℥ss. bis vel ter in hebdomada; omittantur medicamenta prius præscripta.

March 21st. Urine less by nearly two pints in the twenty-four hours; thirst diminished; tongue clean; pulse moderate as to strength and frequency; two motions daily; sensations much improved. Thinks he gains strength. Sumat. Tinct. Iodin. gutt. jx. ter die. Full diet. 23d. Urine reduced to six pints, but it is still sweet. 25th. Urine as before. Nearly two thirds of the whole quantity passed during the night. From long habit he wakes very often, and then always experiences a desire to make water, though, frequently, little passes. Tongue moist, but rather white, with the edges florid; pulse firm and satisfactory; bowels open; urine of more natural colour and odour, and less frothy. The man's spirits are excellent—he says he has not felt so well for four years. Tincture continued. Ten grains of Dover's powder at bed time. N. B. The powder was taken only once, as he did not rest the better for it. 28th. Urine five and a half pints, of a natural colour, but still somewhat saccharine. Liquid injesta, three pints. April 4th. Urine and liquid injesta exactly balanced. *Urine perfectly natural as to appearance and taste.*

Upon my visit on the 6th, I learned that, on the preceding day the patient had been all at once attacked by sore throat, which he attributed to his having lain in bed exposed to a stream of cold air. Iodine discontinued; a gargle, and six leeches to the throat. Directed also to inhale the steam of warm water. On the following day he swallowed with more ease, but complained of diffused soreness over the chest. There was tremour—the pulse was feeble; tongue foul; bowels constipated; urine passed only once in the last twenty-four hours. Laxatives—demulcent mixture, with myrrh and tinct. opii. On the 8th, he was much worse. There was profuse purulent expectoration. Stomach retained no liquids. He died at about ten o'clock at night.

In the termination of this case I was greatly disappointed, and, at the moment, experienced much uneasiness, for I feared that the iodine tincture had done mischief. Yet it had been given only for a short time, and in very moderate doses, and its effects had been most anxiously watched. Every thing seemed to be going on well up to the beginning of April. The diabetes was decidedly checked, and the general health and appearance of the patient were improving day by day. Far from losing in bulk, he was perceptibly gaining. He was himself most sanguine in his hopes of recovery, and I certainly did indulge a hope that he would leave us in a bettter state of health than he had known for several years before. No one untoward symptom occurred till April 4th, and the sore throat seemed to be accounted for plainly enough by the patient himself. Upon reviewing the history of this case, I am disposed to conclude that the medicine had no share in bringing about the fatal event, but that exposure to cold again called into action the disease of the chest, which had subsisted some time before. I very much regret that an opportunity was not given us of examining the body, but I was unable to prevent its removal. Should a case of diabetes again come

under my notice, I shall once more cautiously make trial of the same remedy.

4. CASE OF HYDROCEPHALUS, WITH DISEASE OF THE KIDNEYS AND BLADDER.

William Page, ætatis 21, was admitted, April 20th, 1827, with cough, and all the symptoms, as it then seemed, of confirmed consumption. These were indeed so marked, that I at first hesitated as to the expediency of admitting the patient.* It was stated, however, that the affection of the chest was of recent date, occasioned by cold, and contracted by working in the tunnel of the Canterbury and Whitstable railway. There was *no other complaint* mentioned, excepting an eruption on the scalp, which had subsisted from childhood. The head was shaved and well washed, and for the present, as the lad appeared very feeble and exhausted, a cordial anodyne was given at bed time. On the next visit, the symptoms continued the same. No pain of the chest, but cough and muco-purulent expectoration. A demulcent saline mixture with tinct. digital. was ordered by day, and an opiate at night. By the 30th, the cough and expectoration were nearly gone; the pulse was rapid and feeble; dyspnœa; tongue clean; bowels regular; appetite good; slept very well. This lad had a cranium most unhappily formed, almost the cranium of an idiot. He was very dull, and all the reply I could elicit from my inquiries was, that he was better. Medicines continued. A little of the ungt. hydrarg. nitrat. diluted with ungt. cetacei for the eruption. Tartar emetic ointment to the chest. In two or three days more he took to his bed. Answered questions rationally, but in the most laconic style. No acknowledgment of the *slightest* pain of the head, or chest, or abdomen, or any part of the body. Appetite continued very good. Pulse extremely low. Tongue becoming brown. The former medicines were discontinued, and cordials given; but in spite of every effort to rouse him, he got gradually worse and worse, till, for the last four days of his life, the symptoms of pressure on the brain were unequivocal. He was now quite insensible. A blister was applied to the nucha, and tartar emetic ointment to the head. At last he became comatose, passed his urine and fæces unconsciously, and died, May 14th.

The body was examined about eighteen hours after death. Considerable effusion was found in the ventricles, and in the substance of the brain. There was also deposition of ossific matter on the dura mater.

In the chest there were adhesions of the lungs on both sides, to the pleura costalis. Considerable effusion in the pericardium. Heart free from disease. Nothing remarkable was found in the abdomen till we came to the kidneys. The left kidney was much diminished in size, and contained a quantity of sabulous matter, as did also the right kidney, but it was free from disease. The coats of the bladder were much thickened, and it was almost completely filled with pus and two large calculi.*

At the period of Page's admission, not the slightest hint was given me, either by himself or his mother, of his ever having laboured under symptoms of stone, nor was one symptom observed during the time he was my patient. After his death, however, it was discovered that he had formerly complained of pain in the region of the bladder, and dyspnœa, &c. at intervals.

* The stethoscope would have dispelled my doubts, but I regret to say that I have, until very lately, neglected the use of it, as well as of percussion.

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LECTURES ON THE OPERATIVE SURGERY OF THE EYE; *or an Historical and Critical Inquiry into the Methods recommended for the Cure of Cataract, for the Formation of an Artificial Pupil, &c. &c. &c.* By G. J. GUTHRIE, Esq. 2d edition, with Seven Explanatory Plates. London, 1827. 8vo. pp. 554.

In the cultivation of ophthalmic surgery the surgeons of this country have been rather behind their foreign brethren. The diseases incident to the eye, and the means necessary for their cure, had been assiduously investigated by the French and German authors long before they had attracted much attention in England. With the exception indeed of the obscure treatises of Coward, Read, Crosse, and others equally unknown, the desultory writings of Taylor, and the obsolete book of Chandler, the English literature of surgery possesses no work professedly on the diseases of the eye; and only in the writings of Cheselden, Sharp, Warner, Pott, and Wathen, do we find some incidental observations on the merits of certain modes of treating cataract, and some of the more ordinary complaints of the organ of vision.

The first of the British surgeons who made the diseases of the eye a particular study were Ware and Cunningham Saunders; and even the writings which these ingenious men have left can by no means be compared with those, especially of the German surgeons. To omit the labours of De Berger, Heister, and Richter, which belong to an earlier era, the literature of Germany boasts of the elaborate writings of Schmidt, Beer, the two Wenzels, Soemmering, Himly, and more recently those of Benedict, Walther, Weller, and Langenbeck; while that of Italy may justly be proud of the classical production of the Professor of Pavia.

On the career of these distinguished models, however, our countrymen have lately made rapid and effectual advances. The writings of

* They were broken in extracting them from the bladder, but the fragments weighed fourteen drachms.

Wardrop, Lawrence, Vetch, and Travers, have contributed in a remarkable degree to illustrate the nature of many of the diseases incident to the organ of vision, and have principally tended to introduce a more regular and systematic method of cure than had been in previous use. The example of these experienced surgeons, combined with the establishment of a variety of charitable institutions for the express purpose of affording relief to those of the lower ranks labouring under different forms of impaired vision, has procured for the study of ophthalmic surgery a degree of attention and interest from which, doubtless, the art of the oculist must be justly expected to derive the greatest improvement.

In this department, however, the most zealous labourer is undoubtedly Mr. Guthrie; and to him the English student is under the greatest obligations for the diligence with which he has exerted himself to render the art of the oculist a branch of surgery at once scientific and accessible. The present work of this author is devoted chiefly to the operative branch of ophthalmic surgery; and on this department is it doubtless the most comprehensive treatise at present extant. Though enjoying excellent opportunities of acquiring practical information on the diseases of the eye requiring the interposition of the surgeon, Mr. Guthrie has not confined himself to the results of mere personal experience. He has evidently bestowed great pains in studying the works of the foreign ophthalmological writers, and he has exercised in general a just and liberal spirit of remark on the merits of their respective methods of treatment.

The diseases of the organ of vision requiring the aid of surgical operation consist, as in other parts of the body, of certain changes in structure, which are very often the effect of inflammation, or some similar disorganizing process. When they are the consequences of the former agent, they may often be prevented, or at least rendered less injurious in their effects by the prompt and timely interposition of general medical and surgical treatment. When they have exceeded this point, and such a result may often take place, they are no longer amenable to the same influence; and nothing short of an operation particularly adapted to the purpose is adequate to restore to the organ its former utility. In other circumstances organic changes may take place slowly and insensibly, yet with great certainty, and either impair the utility of the organ, or destroy it entirely. In this case also the surgeon has no resource, save a judicious and dexterous application of the principles of his art.

Entropion, or inversion of the eyelids, whether occurring in the upper or in the lower eyelid, depends, according to Mr. Guthrie, on the conjunct operation of several causes. An opinion has very generally prevailed, that this painful and obstinate complaint depends on the mere inversion of the hairs of the eyelashes. Mr. Guthrie shows clearly, that, though this inversion is part, it does not constitute the whole of the disorder; and the derangement of the eyelashes, termed *trichiasis*, is itself a consequence of disease,—generally chronic inflammation of the eyelid and tarsus. Inversion of one or more *cilia* may result from various causes, and produce a partial inversion of the eyelid; but complete general inversion or entropion is a consequence of chronic inflammation, operating at once on the tarsal cartilage, and on the excessive action thereby induced in the *orbicularis* muscle.

He adopts that part of the hypothesis of Mr. Crampton which ascribes this vicious direction of the eyelids to the contractions of their angles; but objects to the competency of that which supposes the disease to depend on the shrivelling and thickening of the tarsal conjunctiva, for two reasons. 1st, In the most severe cases of granulated or fungous conjunctiva, instead of inversion, there is a tendency to eversion; and 2dly, as the tarsal conjunctiva is firmly attached to it, the action of the levator palpebræ must be on the whole, and not on the edge, as the hypothesis of Mr. Crampton requires.

In short, general inversion of the edge of the tarsus of the upper eyelid Mr. Guthrie represents to be first determined by the swelling of the external parts in inflammation, acute or chronic, and the spasmodic and extreme contraction of the *orbicularis*, and to be completed by contraction of the angles of the lids, and the inversion of such hairs as are matted in the vitiated discharge of the conjunctiva and Meibomian glands.

To this view of the pathology of entropion must be conceded the merit of being more comprehensive in the consideration of the several causes than any which has preceded it. If we could venture to offer any suggestion to an oculist of the great experience and accurate observation of Mr. Guthrie, we should say, that in explaining the phenomena of inversion, not only the circumstances enumerated by him are to be taken into account, but more especially the physical properties and the mechanical configuration of the tarsal cartilages. Every case of entropion is preceded by inflammation of these bodies, the effect of which is to increase considerably their natural hardness and firmness. The inflammation also causes excessive contraction of the ciliary part, especially of the *orbicularis*, which, however, would be of little moment, but for the firmness and the semicircular shape of the tarsal cartilage. Such is the operation of this contraction under these circumstances, that after the eyelids have been forced to their utmost over the eyeball, while the two extremities can be moved no further, the intermediate circular segment of the tarsus is all at once made to describe a circular motion inwards and upward on the eye, the centre of which motion is a point intermediate between the two extremities of the tarsus and the origin or acting point of the ciliar muscle.

That this takes place may be clearly proved by the examination of a few cases of the dis-

case, in which the middle part of the tarsus is always found more inverted than the two extremities. That the motion depends on the increase of the natural firmness and the semicircular shape of the tarsus is obvious to every one who understands the laws of mechanics, and may be readily illustrated by observing the motion which takes place in a rigid elastic hoop, the two ends of which are fixed, while the central portion is under the operation of a moving power.

The same circumstances account for the fact remarked by all practical oculists, but by no means satisfactorily explained, that entropion is infinitely more frequent in the upper than in the lower eyelid. The former is more extensive, or is the segment of a much larger circle than the latter, and hence is much more readily operated on by the orbicular muscle, and much less easily restored to its natural direction. It is only in this manner also that can be understood the vicious bending and curvature of the cartilages so strongly insisted on by Mr. Saunders, and also by the present author, and the contraction of the angles to which the disorder is ascribed by Mr. Crampton. This vicious curvature is the joint effect of morbid induration of the tarsi, bodies naturally firm and unyielding, and the internal projection occasioned by the excessive action of the orbicular and ciliar muscles. When inversion is once completed, it is easy to see how difficult it must be to restore the cartilage to its original position.

In considering the treatment of this disease, Mr. Guthrie enumerates the methods which have been in use at different periods from the time of Galen, Antonius Musa, Celsus, and Paul of Aegina, down to Heister, Maitre Jan, St. Yves, Scarpa, Monteggia, and the recent German oculists. Saunders, it is well known, one of our most ingenious and rational oculists, declared that in the inveterate and established form of entropion nothing short of extirpation of the tarsus is effectual. But Mr. Guthrie has had occasion to witness living monuments of the insufficiency of this measure, even in the persons of patients on whom Mr. Saunders had himself performed this operation. A more effectual remedy he has found in modifying the method originally practised by Mr. Crampton. This consists in dividing perpendicularly by the knife or the blunt-pointed scissors as much of the eyelid close to the external angle as renders it perfectly free, and in the same manner at the inner angle, but without including the *punctum lacrymale*. When these incisions are made to the requisite extent, the elasticity of the tarsus, no longer confined by the bridling effect of the angles, may be so considerable as at once to return the eyelid, tarsus, and eyelashes to their natural position. Where this does not take place, either from lateral adhesion, or from extreme induration and habitual curvature of the tarsus, the attachments should be divided, and the incisions prolonged, and the part of the eyelid included between them must be completely everted; and it may be even requisite to divide the tarsal cartilage through its most indurated and contracted point. Of the division of the conjunctiva inculcated by Crampton, Mr. Guthrie disapproves as unnecessary, and even injurious.

When these essential parts of the operation have been completed, a fold of the skin of the eyelid between the incisions should be raised by the forceps, and cut away by the curved scissors; the requisite ligatures are to be inserted, and the usual dressings to be applied. The details of the after-treatment may be found in the work itself.

The effects of this operation are illustrated by the relation of six cases, in which its success was complete.

In slight cases the application of concentrated sulphuric acid, as originally practised by Helling of Berlin, and afterwards by Quadri of Naples, may be sufficient to effect a cure.

Ectropion, or eversion of the eyelids, is much more common and much less serious, and is rather a complaint unsightly to the spectator, and annoying to the patient, than productive of much real distress. In a slight degree it is exceedingly common as a consequence of chronic inflammation, when the eyelids are villous, or granular, or hard as cartilage. It may occur in the young after long-continued or repeated attacks of palpebral inflammation, often called strumous, and certainly occurring chiefly in strumous habits. It may take place in the adult under the same circumstances. And in the aged it is frequent as an effect of repeated inflammation of the conjunctiva, where great relaxation of the parts combines with a loaded state of the vessels to prevent restoration to the sound state. In these several forms it constitutes the *lippitudo* of the Romans.

In explaining its etiology, Mr. Guthrie directs the attention of his reader, not only to the swelled state of the palpebral conjunctiva, the diseased Meibomean glands, the successive decision of the eyelashes, and the morbid secretions issuing from these parts, but to the excoriation, hardening, and shrivelling of the skin, produced by these irritating secretions. The fungous state of the conjunctiva, on which Scarpa has laid great stress, is neither an essential cause of eversion, nor when present always produces it. The contracted indurated state of the skin of the eyelid is, on the contrary, invariable; and between the degree of this change and that of the eversion a very exact relation may always, according to Mr. Guthrie, be traced.

In this representation Mr. Guthrie may be right; and it would be improper to deny unconditionally the accuracy of his observation with regard to the influence of the shrivelled skin in producing ectropion. We cannot refrain, however, from expressing the opinion, that Mr. Guthrie, in his anxiety to assign to the skin an important part in the formation of this complaint, overlooks, as he does with regard

to entropion, the influence of the physical properties and shape of the tarsal cartilages. It is to be remarked, indeed, that nothing tends so readily to evert the tarsus as the swelling of the chronic, palpebral inflammation; that when once this swelling attains a certain point, the same circumstances which we noticed produce inversion, will now operate with equal facility in producing eversion; that even the simple action of shutting the eye forcibly in this state causes eversion; and that the shrivelled state of the skin is to be viewed rather as an effect than a cause of the disease.

The justice of these observations is, we conceive, strongly evinced in the second sort of ectropion mentioned by the present author, —that resulting from acute inflammation. It is matter of notorious observation, that in acute purulent ophthalmy, both of infants and adults, nothing is more common than more or less eversion of the eyelid, which subsides in general, unless the conjunctiva has been rendered villous and granular. In this case the eversion is permanent, and requires the use of remedies.

The only instance in which the contraction of the skin can be justly admitted to be an essential cause of ectropion is in that of the third species of Mr. Guthrie,—the eversion in consequence of the cicatrix of a wound or sore in the immediate vicinity of the eyelid. The mechanism of this process, and the circumstances under which it occurs, are so well understood to the surgeon, that it is unnecessary to take up the time of the reader with the details, which may be read in the work of Mr. Guthrie.

A fourth form of the complaint is that which depends on the conjunct effect of palsy and slight chronic inflammation of the palpebral conjunctiva. What muscles are affected in this palsy Mr. Guthrie does not mention. It is manifest that the lower eyelid, in which chiefly this variety of the disease occurs, is connected with no muscle which could produce the effect alleged; and that the only loss of power which can be physiologically admitted in this case, is that relaxed and flaccid state of the parts, which is nearly uniform at an advanced period of life. With the distended, varicose, and often villous state of the palpebral conjunctiva, this is amply sufficient to produce that peculiar haggard eye which has been truly said to be "quenched in the rheums of age."

The treatment of the several varieties of ectropion is regulated on much the same principle, and effected nearly by the same means. In laying down his indications, Mr. Guthrie allows himself, in our mind, to be misled and embarrassed by his hypothesis of cutaneous contraction; and in his first species the first indication is to relieve the contraction of the skin; and the second, to return and retain the lid in its proper situation. If the skin were really shrivelled, we fear the zinc ointment could not effectually relax it. It is chiefly to the treatment of the diseased conjunctiva, that the replacement of the tarsus is to be ascribed. Mr. Guthrie recommends the method by the concentrated sulphuric acid applied to the everted surface of the eyelid. After six or eight applications, at the interval of four or five days, of this remedy, which has the effect of cauterizing the diseased surface, which is then thrown off by sloughing, the thickening of the conjunctiva is much diminished, and the tarsus is considerably retracted to its natural position. The cure may be then completed by the use of any of the stimulant ointments.

In the employment of the acid, care must be taken not to allow it to touch either the eye or the ocular conjunctiva, and not to allow it to proceed so far as to induce inversion, which has happened.

In the second form of ectropion, the villous state of the conjunctiva is best removed by the frequent, but light and careful application of the lunar caustic. When it is the consequence of acute inflammation, and consists chiefly in loaded vessels, in which the blood stagnates, and is prevented from returning by the partial strangulation of the eyelid, scarifications and mild astringents are the proper remedy.

Ectropion resulting from the contraction of a scar is very difficult to remove. Mr. Guthrie shows that the cicatrix must be extirpated, and a new one by granulation must be formed. The principal to be kept in view in this case is the same, as that on which Mr. Earle operated in relieving the unsightly contractions, which result from badly healed burns.

On eversion of the upper eyelid, or the hare-eye (*lagophthalmos,*) a much less frequent complaint, Mr. Guthrie delivers some judicious observations.

Relaxation of the upper eyelid (*πτωσις blepharoptosis, atoniablepharon*) depends on loss of power, congenital or acquired, in the *levator palpebræ superioris.* Mr. Guthrie ascribes it also to œdema, to relaxation of the skin, or to an atony of the eyelid. Perhaps, if it cannot be traced to palsy, to some of the premonitory symptoms of apoplexy, to hysteria, or to epilepsy, it may always be referred to that nervous, or rather relaxed and atonic state of the system, which results from disorder of the alimentary function. In such circumstances, the proper remedy is the removal of the disease of which it is a symptom.

On the subject of *adhesion of the edges of the eyelids*, and *wounds of the eyelids* it is unnecessary to dwell. Under the latter head, Mr Guthrie enters at some length into the consideration of that variety of amaurosis, which occasionally succeeds injuries and wounds of the contiguous parts.

It has been generally imagined, that, when loss of vision, with diminution of the transparency of the cornea and humours, succeeds wounds or other injuries in the neighbourhood of the organ, it is caused either by concussion of the organ, or by some mysterious nervous operation. Mr. Guthrie thinks, however, that defective vision, or complete privation of sight, rarely takes place, unless in consequence of injury of some nervous branch, sufficiently

considerable to admit of demonstration by dissection. These wounds or injuries may be situate either on the forehead, towards the nose, implicating the supra-orbital branch, and the nasal branch of the first division of the fifth pair,—or immediately below the eye, affecting the second division of the same nerve. It is not necessary that injury be inflicted on the eye itself; and it is well established that the impaired vision, is the sympathetic effect of injury done some of the ophthalmic system of nerves. It is remarkable that the loss of vision is almost never immediate. In most instances, it is observed to approach slowly during the process of healing; and in some it appears only when cicatrization is complete.

The mode in which these injuries operate, is understood by reflecting on the arrangement and distribution of the ramifications of this ophthalmic division of the fifth pair. The researches of J. Frederic Meckel and of Zinn, showed that the white radiated fibres in the uvea or posterior part of the iris, consist chiefly of nervous filaments, which proceed from the lenticular or ophthalmic ganglion; and as this body is formed principally of nervous twigs, from the first branch of the fifth pair, the influence of its integrity, or its lesion over the functions of the iris is obvious.

In some few instances, the deprivation of sight is said to be instantaneous; and in these Mr. Guthrie is of opinion, that the eye itself has suffered from the general concussion,—that is, we imagine, from the shock inflicted on some part of the bony orbit. That this opinion is well founded will be readily admitted, by those who know with what facility a blow inflicted on a hard body, as bone is propagated from the point of percussion to one more remote. Thus, a blow inflicted on any part of the orbit from the external orbitar to the internal orbitar process, or even on the lateral part of the frontal bone, may follow such a direction as to expend the sum of its force somewhere in the bottom of the orbit, and affect severely the choroid and retina. The first effect of this, may be analagous to the first effect of a similar blow on the head,—viz. concussion more or less severe, and consequent derangement or interruption of function, or even hemorrhage from lacerated vessels. In the latter case, more or less extravasated blood is generally seen in some part of the posterior chamber, or in the vitreous humour. The second effect is quite similar to the secondary effects of blows on the head, viz.—a degree of inflammation more or less severe, and more or less distinct. It will depend very much on the sagacity of the practitioner, and on the activity and promptitude of the subsequent treatment, whether the choroid and retina are not permanently and irremediably injured.

This, we conceive, is the true theory of impaired vision, supervening immediately or soon after blows on the orbit, without demonstrable injury of nervous filaments. It also affords the explanation of the fact, that, in some instances the vision is abolished only in part, or in one-half of the organ. It finally suggests the appropriate treatment,—a point on which Mr. Guthrie deems the interposition of the oculist as unavailing. It is manifest that the injury ought to be treated on the same principles, as the effects of injury or violence in general.

We must not omit to notice, nevertheless, that the present intelligent surgeon is by no means entirely unaware, of the true nature of the consequences of this species of injury. He justly remarks, that every wound of the forehead implicating the fifth pair of nerves is not succeeded by amaurosis, and conversely, that many cases of defective vision accompanied by wounds, depend on other injury than that inflicted on the forehead. He seems to think that the injury may have been inflicted directly on the eye, in which extravasation or marks of laceration are sometimes manifest. But even this supposition, as we have shown, is unnecessary; for violence on the forehead, without any injury of the nerve or eye, is perfectly competent to produce the effect in question.

Mr. Guthrie gives no encouragement to the practice of Beer, which consists in dividing the nerve down to the bone, in cases supposed to depend on injury of the ophthalmic branch of the fifth pair. It is easy to discover the real cause of the favourable results obtained by this oculist, and the want of success in the hands of Scarpa, Guthrie, and others. The oculist of Vienna divided the nerve at once, without knowing whether in any given case the amaurotic blindness was to ensue. Now, as Mr. Guthrie has justly observed, not every case of nervous injury is followed by defective vision; and to this it may be added, that in several, in which vision becomes impaired, it is spontaneously recovered after some time without known cause. On this head, we may refer the reader to some good observations by Benedict, in his eleventh book on Traumatic Ophthalmia.

In the chapter on tumours, a good deal of miscellaneous matter is introduced. The pathology of stye is correctly stated; but it appeared to us unnecessary to refute the erroneous notion, that this disease consists in inflammation of a Meibomian gland. In this meridian, at all events, Mr. Guthrie may be assured, it was never understood to be any thing else save inflammation of the cellular tissue, between the delicate skin of the eyelid and the tarsal cartilage. Conversely, we think *chalazeon* is very often, if not always, an enlargement of a Meibomian gland. On the removal of encysted tumours, which are the same in the eyelids as elsewhere, the reader will consult the work itself.

Encanthis, it is well known, consists in enlargement of the *caruncula lacrymalis*, implicating also the semilunar valve, and spreading to greater or less extent along the edge of either eyelid. This disorder Mr. Guthrie justly views as the result of inflammation ill treated, neglected, or passed into the chronic state. Of the inveterate stage and cancerous form

described by Scarpa, he repeats the description of that author.

In treating this disorder, he recommends antiphlogistic means in the early stage and inflammatory form, the use of the scissors in the case of excrescences or mulberry growths, and the extirpation by ligature, or the knife, when it is large and likely to prove malignant.

On the nature of *Pterygium*, he differs from Scarpa entirely. This eminent pathologist, it is well known, regards *pterygium* as an effect of chronic ophthalmy, and as consisting in a relaxed varicose state of part of the conjunctiva. From very great experience in the treatment of chronic inflammation, as also from the observation of several friends, who have examined the pensioners discharged in consequence of diseases of the eye, Mr. Guthrie thinks he is justified in doubting the soundness of this opinion; and he further infers, that not only is true pterygium rarely the consequence of inflammation, but that it differs essentially, from those nebulæ of the cornea with which Scarpa has classed it. Mr. Guthrie, however, does not state very clearly his own opinion on the nature of this growth. But from his description it may be inferred, that he regards it as a membranous growth or production from the conjunctiva. Perhaps the difference between this, and the view of professor Scarpa, is more imaginary than real.

The operation is minutely and accurately described. The sum of it may be said to be, that the growth must be removed by the knife; and if fungous or unhealthy granulations succeed, the scissors, with the occasional use of blue vitriol or lunar caustic, are to be employed. When the pterygium assumes a cancerous aspect, removal of the contiguous part of the eye may be requisite; and if farther advanced, extirpation of the contents of the orbit may be the only remedy. On the observations on the removal of extraneous substances from the eye, and on injuries of the eyeball, though judicious and instructive, it is unnecessary to dwell.

In the next chapter, on tumours formed within the orbit, and protrusion of the eyeball, the reader finds much interesting matter. It would, however, have been better had Mr. Guthrie altogether separated suppuration of the bottom of the orbit, from encysted and other tumours occurring in that situation. The first not only differs in nature, but demands a different line of treatment entirely. In the former case, simple incision or puncture may be sufficient to effect a cure. In the latter, extirpation generally in the case of encysted tumours, and always in the case of sarcomatous or malignant growths, becomes a necessary measure.

This proceeding, though attended with no alarming hemorrhage, is by no means free from danger. The necessary incisions may be followed, Mr. Guthrie has shown, with severe erysipelatous inflammation; or, if the tumour is attached to the periosteum of the orbit, with inflammation, spreading to the dura mater, cerebral membranes, and the brain, so as to prove fatal in a very short space of time. Of the latter, the author quotes a good example from Langenbeck. It is the duty of the surgeon in such circumstances, to watch his patient with the most assiduous vigilance and circumspection, and upon the first appearance of inflammatory symptoms affecting the brain, to put the antiphlogistic treatment in prompt and energetic employment.

To tumours behind the periosteum, whether issuing from the bone, or connected with the sphenoidal or ethmoidal sinuses, or proceeding from the dura mater or the brain, the same considerations are applicable.

In each of these cases, in aneurisms of any of the arteries within the orbit, and in tumours, hydatids, or enlargements of the lacrymal gland, more or less protrusion of the eyeball takes place, constituting the affection, known under the general denomination of *exophthalmos*.

Among tumours of the orbit affections of the lacrymal gland hold a conspicuous place. The alleged frequency of these disorders, as maintained by Mr. Todd, is doubted by Mr. Guthrie, who states, that, among nearly 12,000 patients who have attended the Eye Infirmary to which he is attached, he has met one case only of suppuration, and none of scirrhus. In proof of the accuracy of the statement regarding the latter disease, he further adduces the testimony of Beer, Schmidt, Desault, and Boyer, according to whose observations scirrhus of the lacrymal gland is never seen primarily, and is met with only as a consequence of cancer of the eye. Richerand quotes a single case, in which Guerin extirpated the gland, and which he is disposed to regard as the only example of isolated scirrhus, or independent of cancer of the orbit. Warner, on the contrary, several times saw it so changed in structure as to require extirpation. Demours states that he has seen several cases of it. Travers removed the gland entirely in a state of true scirrhus; and Todd has more than once performed the same operation. These facts show that it is difficult to draw any general conclusions, regarding the comparative frequency of primary cancer of the lacrymal gland. The remedy is extirpation, the manner of performing which, is given in the cases of Mr. Todd and Mr. O'Beirne.

Of *Staphyloma* Mr. Guthrie admits two forms. The first, however, is rather to be viewed as an instance of extreme thickening, with some opacity of the cornea, which is more spheroidal and prominent, than natural, but through which the iris can still be distinguished. It is not at all wonderful that this form of morbid change is quite irremediable. The second is the oridinary form of staphyloma described by Richter, Scarpa, Beer, Schmidt, and all the writers on ophthalmic surgery.

The anatomical characters of this disease, which is the consequence of inflammation, have been represented by most of the foreign oculists, to consist in swelling or thickening of the cornea, outside and inside, with swelling and protrusion of the iris, which is made to

adhere to the inner surface of the cornea. This is matter of fact, which cannot be denied. But they have imagined another circumstance of a more doubtful nature, the reality of which Mr. Guthrie justly questions. We allude to the idea, that the secretion of the aqueous humour in the posterior chamber proceeds, while the cornea yields to pressure, is distended, and becomes staphylomatous. It is not difficult to show, that this is assuming an event posterior in its existence, to account for another already established. In point of fact, the staphylomatous protrusion of the cornea, has taken place previous to any unusual accumulation of aqueous humour; and Mr. Guthrie has been at some pains to show, that whatever accumulation takes place, is by no means sufficient to produce the inordinate swelling of the cornea.

Staphyloma has been observed to be frequent in infants and children, more especially after the pustular inflammation which not unfrequently attacks the cornea during or towards the termination of confluent small pox. Scarpa attempted to show that this prevalence of staphyloma in young subjects depends on the pulpy and succulent texture of the cornea at that period of life. A more probable explanation of this fact is derived by Mr. Guthrie, from the proneness which variolous inflammation attacking the cornea manifests to produce ulceration of that membrane. The hypothesis of Scarpa is further invalidated by the fact, that staphyloma may succeed every inflammation of the eye in which the cornea is severely affected through its substance. Thus purulent ophthalmia, when epidemic in the army, afforded a large proportion of cases of staphyloma; and Mr. Guthrie refers this event only to the sloughing and ulceration which that disease often produced. We have seen genuine staphyloma take place in consequence of acute inflammation of the eye ascribed to the presence of a minute quantity of quicklime. Does the sulphuric acid when maliciously thrown into the eye produce the same result?

In every case of genuine staphyloma the eye is rendered utterly useless as an organ of vision; and the duty of the surgeon is confined to the means of affording relief from the irritation resulting from the inordinate projection, and occasional mechanical inequality of the anterior surface of the eye. The precise object of the surgeon in affording this relief has never been very distinctly stated by authors; and the student is hence told in general terms, that the operations for staphyloma are effected either by caustic or by the knife. Even the present author has not attempted to refer his curative means to one or two general principles; and the reader is allowed to collect the results from a variety of statements not altogether naturally connected.

Richter alone, in practising the use of escharotics to produce a small ulcer, avowed it to be his purpose to *evacuate the thick tenacious* humour, which is the immediate cause of the opacity and unnatural tumefaction of the cornea. The benefit of this method, after repeated trials, is denied by Scarpa, who is therefore charged by Mr. Guthrie with not understanding the intention of Richter, and the manner of its application. Mr. Guthrie might have justly taken the present opportunity of stating succinctly the theory of the operation.

In all cases of staphyloma the objects to be held in view are the restoration of the natural shape and spherical figure of the cornea; and in most cases this is to be effected by removing irregularity, and diminishing undue prominence. The first of these objects may be effected by caustic or by the knife, used in such a manner as to remove successively any point more projecting than another. The second is to be done by evacuating such fluid, whether it be part of the aqueous humour degenerated into an opaque fluid, or a new secretion, as contributes with the thickened cornea to inordinate convexity and prominence of the eyeball. With this view any of the potential caustics may be employed, as Richter recommended, to produce a slough, which, when thrown off, leaves an opening, through which the morbid fluid trickles, till its entire discharge allows the cornea to subside. When the knife is employed, in consequence of the proximity of the iris to the cornea, not only the crystalline lens, but the vitreous humour may escape. But as the eye, notwithstanding the assertion of Demours, is invariably useless, this is injurious in no other mode than as inducing too great diminution of the eyeball.

From *extirpation* we pass to the lectures on cataract, its varieties, and the several modes of operation.

These lectures are numerous, elaborate, and minute; and as we cannot hope to give any thing like a comprehensive view of the subjects treated, and the questions discussed by the author, we shall merely direct the attention of the reader to the subject in a very general manner.

It is well known that the anatomical character of cataract consists in more or less opacity of the crystalline lens, or its containing capsule, or of both. The causes which tend to produce this diminution of transparency are by no means satisfactorily known; and surgeons have been contented with enumerating all the circumstances under which cataract has at any time been observed to take place. An opinion very generally prevalent of late years is, that cataract or opacity of the lens is the effect of inflammation, especially of the capsule; and this is doubtless observed to take place in syphilitic or mercurial inflammation of the iris, and other internal tissues of the eye. Professor Walter especially has remarked a wreath of vessels at the pupillary edge of the iris sending vessels to the centre of the anterior layer of the capsule, and a network of vessels issuing from the posterior layer into the substance of the lens,—both of which, he conceives, are morbid, and constitute the agents of that alteration in its structure which impairs its transparency. Mr. Guthrie, while he admits that this appearance is that of in-

flammation of the lens, and that it may produce one species of cataract, denies, however, that it can account for all. It is, he justly remarks, inflammation propagated from the contiguous tissues to the capsule, and doubtless diminishing the transparency of the lens, but forming not a true but false cataract. In some instances even the lens is not affected; and when the inflammation has subsided, the white, gray, or brown appearance of the capsule disappears entirely, and the parts become again diaphanous.

He takes the same view of the theory lately advanced by M. Gondret, regarding the inflammatory origin of lenticular or capsular opacity, and in short of all those instances of cataractoid blindness coming on suddenly and from obvious causes. "If inflammation," he contends, "be the cause of pure lenticular or capsular cataract, it is inflammation *sui generis*, depending on the peculiar structure or organization of the parts, and the progress of which is not likely to be better known to us, until this peculiar structure or organization shall have been more fully investigated." An additional reason might have been added. Whatever be the structure of the capsule, it is almost certain that the lens presents no traces of organization; and it is incompatible with the known laws of pathology to admit the existence of morbid action in parts which are not proved to be organized.

In his classification of the several forms under which cataract takes place, Mr. Guthrie adopts the ordinary mode of dividing the true or genuine, according as they take place in the lens, in the capsule, or in both at once. In contradisdinction to these he regards all the instances of opacity in the lens, its capsule, or both at once, which succeed inflammation, as examples of false or spurious cataract.

The species of lenticular cataract are distinguished into hard, fluid, soft, and caseous. This division, however, in its further application, is singularly deficient in scientific precision and clearness. Thus, though Mr. Guthrie informs his readers that the lenticular cataract consists of the four species, or rather sub-species, above mentioned, it turns out, according to the description of Mr. G. himself, that the only instance almost of lenticular cataract is hard,—that the soft or caseous form belongs chiefly to capsular cataract,—and that, though the lens on becoming opaque may acquire a preternatural fluidity, yet the fluid cataract is very frequently, if not generally, found either in the *humor Morgagni*, or in the capsule itself. This want of precision is so much the more to be regretted, that the detailed descriptions of the several varieties are minute, and bear every mark of great accuracy.

It would be unreasonable, with our limited observation, to attempt any correction of the results given by an oculist so experienced as Mr. Guthrie. But, so far as we have been enabled to compare cases of cataract with the distinctions laid down by authors, we think much confusion and some imagination have all along prevailed in marking the relative consistence of different species and varieties of cataract. Cataract depending on opaque lens is certainly often pretty firm, as represented by Mr. Guthrie. But, notwithstanding the elaborate manner in which he has attempted to distinguish this hard variety of lenticular cataract, we are convinced, from the observation of a considerable number of cases operated on by different surgeons, that it is next to impossible to say, before the needle is introduced into its substance, whether it be hard or soft, fluid or caseous.

The varieties of capsular cataract are much more frequently hard, or at least firm, than those of the lenticular disease; and in general it may be regarded as pretty uniform, that in most cases of capsular cataract, if the lens is in any degree opaque, its consistence is fluid, soft, or caseous. In the latter case it corresponds to the capsulo-lenticular cataract of the present author.

The different modes of operating for the cure of cataract are sufficiently well known. Though various surgeons, and especially Mr. Ware, and more recently M. Gondret, conceived the practicability of restoring the transparency of the eye by various applications without operation, this idea has never gained any firm hold of professional opinion; and the proposal may safely be pronounced as utterly inapplicable to genuine cataract. Mr. Guthrie has given this subject some attention; and though he infers that it is proper to confirm the opinion, that opacities of the capsule may sometimes be arrested, frequently diminished, and occasionally removed, by due appropriation of means, yet this is chiefly applicable to such opacities as are the consequence of common inflammation, or to the true idiopathic cataract in an incipient state. He doubts entirely the possibility of removing a well-formed opacity of the lens either by external applications or by internal remedies.

By the operation for cataract is meant the removal of the opaque lens and capsule from the axis of vision; and this may be accomplished in two modes, either by direct and entire extraction, or by destroying their connexion with their nutrient parts, when they undergo a species of solution, either in the vitreous or in the aqueous humour. According to the mode in which the latter form of operation is effected, it is termed couching, depression, reclination, (Willberg and Beer;) or division, or, in general, displacement, (Guthrie;) and according to the mode in which the instrument is introduced for effecting these purposes, before or behind the iris, it is denominated the posterior or the anterior operation, (*keratonyxis*, Conradi, Jaeger, and Buckhorn κερατονυξις, *corneæ punctio.*) In either of these cases it is manifest that the eye is deprived of a part, important for its great power in refracting and concentrating the luminous rays; and, consequently, that, as its place is occupied by aqueous humour only, vision can no longer be the distinct and per-

fect process which it was in the original condition of the organ. This conclusion, derived from optical principles, accurately corresponds with the state of eyes which have been deprived of the crystalline lens in the operation for cataract. The vision is indistinct, in consequence of the low and irregular refracting power of the medium which is substituted for the lens; and this defect can only be remedied by the use of an artificial lens in the form of a convex glass, which supplies the deficiency of concentrating power. It is hence necessary to explain to patients, that the operation for cataract, though requisite as the only means of removing an opaque body, the presence of which forms an impassable barrier to the rays of light, cannot, nevertheless, restore the degree of vision originally possessed by the sound organ.

Much has been said by different oculists on the proper period for operating, on the propriety of operating when only one eye is affected, and in the case of both eyes, on the propriety of operating on both at the same time. These several topics Mr. Guthrie discusses with much deliberation and acuteness, and is at some pains to explain the principles by which the oculist is to regulate his proceedings. He directs the attention to the circumstances in the general constitution of the eye and its textures, which favour and contra-indicate operation.

In opposition to the opinion of Samuel Cooper and Mr. Travers, that the objections against operating in the case of a single cataractous eye, the other being sound, he scruples not to say, that, as far as the improvement of sight is concerned, the operation ought not to be attempted on one eye while the other remains sound. He admits, that, if the sight of the sound one becomes deranged from the commencement of cataract or any other cause, the objection is completely obviated. In local or accidental cataract he does not believe that the presence of an opaque lens in one eye exercises any influence on the other; nor would he trust to its removal for preventing the formation of opacity in the other at any subsequent period. The only reason which he admits for justifying an operation under such circumstances, is to remove deformity, and restore to the countenance that intelligence which is much diminished by the presence of the opaque lens.

The opinion that the removal of cataract from one eye will prevent the formation, or cause the disappearance if forming, of opacity in the lens of the other, has been lately revived by Mr. Stevenson. This point has been considered with much attention, and illustrated with a good deal of curious matter by Mr. Guthrie, who thinks, on the whole, that there is some ground for that part of the assertion of Mr. Stevenson, that "the removal of cataract from one eye may cause the disappearance of an incipient opacity in the other." In four cases out of a very great number he has seen the removal of an opaque lens from one eye succeeded by the disappearance of an incipient opacity, probably of soft consistence, and the consequence of capsular opacity in the other. But he has not had occasion to remark the disappearance of a well-formed opacity of the lens, evidently hard, in consequence of operation on the other eye; and he believes, therefore, that no such result takes place when the lens alone is opaque, and especially where it is indurated. On the contrary, he selects from a great number of cases, four in which the operation was highly successful in all respects, in which, nevertheless, the completion of cataract in the opposite eye was not prevented.

In the case of opacity of both eyes Mr. Guthrie is decidedly hostile to the practice of operating on both at once as a general rule. The exceptions he derives, as Beer does, from those circumstances, either necessary or accidental, which may render success doubtful; but the final result may be understood from the following avowal:—"If I were the subject of this disease myself, I should choose to have one eye operated on first, and the second done at a subsequent period." When cataract is completely formed in one eye long before it impedes vision in the other, he advises the patient to submit to his disease, keeping his health in good condition, until the eye last affected became nearly unserviceable, when the operation might be conveniently performed on that first affected.

The different modes of operating practised by different oculists are described most minutely and accurately; but for these details we refer to the volume itself. We shall simply notice one or two points relative to the comparative merits of the several modes of operating.

In all cases of operation it is requisite previously to dilate the pupil by means of hyoscyamus or belladonna. It is singular that Dr. Bowen of Naples claims, in his Treatise (published in 1823) on *Hyalonyxis*, or the operation by piercing the vitreous humour, the merit of recommending this practice. In preferring this claim, he very unguardedly exposes himself to the charge of complete ignorance of the practice of the majority at least of oculists in this country. Mr. Guthrie states that, in the first edition of the present work published in 1823, he recommended the use of belladonna for dilating the pupil, previously to any operations within the eye, as a practice which he had followed for years, and which he did not conceive to be any thing new. We can state positively that in 1816 and 1817 the practice of dilating the pupil by means of belladonna was in constant and established use in the hospital of this place in every operation to be performed for cataract, whether by depression or extraction. There is no doubt, from the testimony of Conradi, Langenbeck, and others, that it was in use in Germany long before this period.

Extraction, which alone is entitled to the character of a radical cure, though competent to all, is indispensable only in cases of cataract depending on induration of the lens.

It is, nevertheless, neither expedient nor practicable in all cases of hard lens, since there are many circumstances in the eye or its appendages, or in the constitution of the patient, which may render it uncertain, if not quite inadmissible. Thus, to the success of its performance it is indispensable that the eyelids open well, be free from inflammation or any of its consequences, as œdema, granulation, and disease of the Meibomian glands; that the lachrymal passages be healthy, and the eyelashes straight; that the eye itself be neither too much sunk in the head nor too prominent; that the cornea be transparent, sound, and free from inflammation; that the iris be plane, its pupillary margin free from adhesions, and the anterior chamber of its ordinary dimensions; that the pupil be steady and regular in its motions, yet not too dilatable; that there be neither glaucoma nor amaurosis; and lastly, that the patient be free from pectoral disease, gout, rheumatism, or other disordered states, which, by impairing the vigour of the constitution, may predispose to unhealthy inflammation or other unfavourable results.

The principal evils against which the operator should be on his guard in this operation, are injury of the iris, laying the foundation for protrusion of that membrane, its implication in the wound, and irregular or even closed pupil; expulsion of the vitreous humour; and suppuration of the eye. To obviate the first set of evils the choice of a proper eye, caution in operating, and care in the after-treatment, are generally sufficient. The second accident is injurious rather from the inflammation which succeeds, by the glutinous matter of the vitreous humour adhering to to the incision, than from the actual loss of that humour. According to Mr. Guthrie, if one-fourth of the vitreous humour be lost, the sight is scarcely impaired; if the loss amount to one-half vision will be imperfect, and the result may be doubtful; but if a larger quantity escape, the collapse of the eye may be fatal to the organ, (p. 335.) It is best obviated by placing the patient immediately in the horizontal position. The third accident may occur under any circumstances, but is most likely in unsound constitutions. It can be resisted in no other mode than by prompt and energetic antiphlogistic treatment.

Lastly, against extraction it may be urged, that, if it fail in the first attempt, it is not capable of being performed a second time. The operation of displacement again, comprehending depression and reclination, may be performed in all cases in which extraction is practicable, and in several in which it is inadmissible. It is applicable to all cases of hard lenticular cataract in which operation is advisable. It may be performed when the eye is so deep in the orbit as to render extraction difficult; when the eyelids are contracted or diseased; when the lachrymal passages are affected; when the cornea is partially opaque, or inflamed, or flattened; when the dilatation of the pupil is regular; when the iris is vibratory; when, in the case of operation being otherwise desirable, doubts are entertained as to the sound state of the eye; when the motions of the organ are unsteady or spasmodic; and, lastly, when the health of the patient is doubtful.

Against this operation, however, various objections have been urged by Wenzel and the other partisans of the method of extraction. These objections Mr. Guthrie has combated with great sense and force of reasoning, and we think with perfect success. He has in truth placed the relative merits of this operation in the clearest light; and whoever still entertains doubts of the propriety of the method by displacement should peruse and carefully consider what he has said on this subject in the present work.

The only serious objection is that of rising of the lens, sometimes perhaps years after depression. On the supposed causes of this, and especially the influence of vitreous humour on re-elevating the lens, Mr. Guthrie makes some judicious observations. He shows that the arrangement of the vitreous humour in the cells of the hyaloid membrane prevents the lens from passing through any part of this humour, except that by which it has been depressed, so that the latter rises nearly as it has been pushed down, but does not occupy exactly the same situation.

Reclination through the cornea, (*keratonyxis*,) Mr. Guthrie regards as possessing no advantage over that through the sclerotic. He admits, however, that between the former and the old operation of depression there is no comparison. The operation by dividing the capsule and lens is applicable to cases of soft cataract only. When *cut up*, as it is termed, in this manner, the fragments are supposed to be absorbed, or rather dissolved in the aqueous humour. The objections against this operation are of much the same kind as those against the others; and are to be obviated by the judicious adaptation of the method to the case under treatment. According to the testimony of Mr. Guthrie himself, vision is as perfect after this as after extraction. He nevertheless avows his preference to the posterior operation of Scarpa, even in cases of large fluid capsulo-lenticular cataracts.

Congenital cataract differs somewhat in its anatomical characters from the ordinary cataract of adults. Professor Walther supposes that it is not formed in consequence of disease; but that, as the lens is naturally turbid, in the fœtus, it continues so in consequence of some check given to the progressive development of the embryon at some stage of its growth. To this idea it may easily be objected that it is difficult to conceive any cause which could arrest any natural process in the eye, without producing an analogous interruption in all the other processes in the life of the fœtus. Mr. Guthrie admits, nevertheless, that this idea receives some countenance from the fact remarked by him, that the lens and capsule in one species of congenital cataracts in which the capsule is thick and striated, and the lens soft and transparent, never increase in size in

the same proportion with the rest of the eye; and when the pupil is well dilated the small opaque lens may be seen well-defined on the vitreous humour. In such circumstances a sudden check appears to have been given to the growth of the lens at a certain period of the growth of the ovum.

Schmidt, Beer, and others of the German oculists, again, are disposed to believe that many of these cases of congenital cataract, supposed to exist previous to birth, are in truth, the consequence of rupture of the capsule during the violent convulsions which occasionally occur shortly after birth. This supposition arose probably from the circumstance that congenital cataracts are often capsular only, the lens having disappeared by absorption. But it is justly remarked by Mr. Guthrie, that, in admitting convulsive rupture of the capsule as a cause, it must not be forgotten, that few children who have suffered from convulsions have cataract, and that, conversely, cataracts are observed in many children who have never at any time been affected with convulsions.

The opinion of Gibson, and the ingenious hypothesis of Cunningham Saunders on the congenital cataract, are well known to all those who take any interest in ophthalmic surgery. The first denied the fact of absence of the lens, and contended, that, though simple membranous cataract is not uncommon eight or ten years after birth, it is not found in the infant at an earlier period. These cataracts, he believed, were at that time of milky kind, and, the fluid having been absorbed, the opaque capsule which originally contained it, formed the membranous cataract found at a later period of life. Saunders conceived that the lens became first opaque, was forthwith removed by absorption, while the anterior plate of the capsule, retiring on the posterior, formed a hard opaque membranous body in the site of the lens. Mr. Guthrie takes pains to reconcile these two opinions, which in truth differ much less in reality than either of their ingenious patrons themselves imagined.

To Mr. Saunders belongs the merit of demonstrating the general practicability of operating in early infancy. The peculiarity of his method consists, it is well known, in cutting out, as it were, the central portion of the opaque body, generally by the anterior, sometimes by a posterior operation. The experience of Mr. Guthrie on this subject, however, leads him to prefer the posterior operation.

The chapter on the operation for artificial pupil, though a little shorter, is not less elaborate. After distinguishing the operation into four successful methods, division, (*coretomia, iridotomia*) excision, (*corectomia, iridectomia*) separation, (*coredialysis, iridodialysis,*) and the union of separation and excision. Mr. Guthrie traces the history of this operation from the days of Cheselden, Morand, Janin, and Sharp, down to those of Scarpa, Gibson, Maunoir, Beer, Buckhorn, Langenbeck, Quadri, &c.

The object of the operation is easily understood. In cases of adhesion, or closure of the pupillary margin of the iris, while the cornea is transparent, and the lens and vitreous humour are presumed to be so, it becomes requisite to make an aperture in the centre of the closed pupil, to admit the rays of light to the humours and retina. As it is impossible to give such an aperture the motions possessed by the original pupil, it is of great moment to accommodate its size to the average extent of the pupil in a moderate light. Though it is rarely practicable to give this aperture the circular form, it is always important to make it approach as near as possible to that of the original pupil.

When an aperture cannot be made in the centre of the iris, the other parts of the membrane are eligible in the following order; 1st, The lower part of the iris inclining inwards; 2d, The internal a little below the transverse diameter of the eye; and 3d, The inferior and external; the upper, the corresponding part of which is covered by the eyelid, being the least eligible. Mr. Guthrie justly prefers the lower parts of the iris, as those through which the line of vision is least incurvated, and therefore less likely to produce squinting. As the cornea, in some cases requiring an artificial pupil, is partially opaque, the situation of the aperture should always be fixed in relation to that which is clear.

After a distinct enumeration of the different states of the eye requiring the formation of an artificial pupil, Mr. Guthrie proceeds to consider the merits of the different modes of effecting it; and while with much judgment he refuses to concede absolute superiority to any one over another, he nevertheless shows that there are circumstances in the different states of the eye requiring operation, which render one mode of operating more applicable and expedient than another.

It would be foreign to the purpose of this sketch to enter into the details of the lengthened inquiry before us. We can assure the student that his labour will be well repaid by a clear and instructive critical view of the proposals and practices of different oculists and surgeons.

The present article, though not short, exhibits little more than a passing glance at the various subjects discussed in the volume of Mr. Guthrie. It has been already said more than once, that these subjects are investigated in the most deliberate and comprehensive manner. We repeat here what has been said at the outset, that Mr. Guthrie has not confined himself to the results of personal experience, however sound that may be, and however extended the opportunities for acquiring it. With much research he has collected information from all the best and most respectable authorities, and with a spirit of liberal and judicious criticism he has endeavoured to explain to the student the comparative merits of the methods proposed by different operators.

In conclusion, it need only be said that the work of Mr. Guthrie exhibits the most comprehensive view of the present state of knowledge

on the operative department of ophthalmic surgery, and communicates in general sound notions on the pathological principles by which operations ought invariably to be regulated. It is, in short, a work which the student of ophthalmic surgery will find it his interest to study attentively and deliberately, and without which no practical oculist can conscientiously exercise his art.

From the London Medical Repository.

The Works of William Cullen, M. D. Professor of the Practice of Physic in the University of Edinburgh: containing his Physiology, Nosology, and First Lines of the Practice of Physic; with numerous extracts from his Manuscript Papers, and from his Treatise of the Materia Medica. Edited by JOHN THOMSON, M. D. F. R. S. L. and E. Lecturer on the Practice of Physic, Consulting Physician to the New Town Dispensary, and late Regius Professor of Military Surgery in the University of Edinburgh. In two volumes; William Blackwood, Edinburgh; and T. and G. Underwood, London, 1827.

The works of Cullen may be supposed to be so well and universally known to the members of the medical profession, as scarcely to require notice here; but if any of our readers should think so, we can assure them that they are labouring under a great mistake. What have been published and hitherto considered as the complete works of this illustrious and celebrated individual, consist of only the bare skeleton of them; and until Dr. Thomson brought out the present edition, the public could form no conception of the extensive and philosophic views which the author entertained of the nature and treatment of disease, nor of the correctnes of the principles upon which he founded his doctrines. This edition contains Cullen's Physiology, Nosology, and the Practice of Physic. His physiology is generally less known than his other writings, although an acquaintance with his views of the animal economy is absolutely necessary to a proper understanding of his practice of physic. The lectures introductory to the course on the practice of physic, are published now for the first time; and they contain a great mass of interesting information relative to the history of medicine, from the earliest ages down to the author's own time, and to the plan which ought to be pursued in the study of the healing art as a science.

To the practice of physic, numerous additions are made, in this edition, from Dr. Cullen's MS. lectures, and from a treatise on materia medica published by him in 1789. We consider these most valuable additions, inasmuch as they fully explain the views of the author respecting the nature of disease, and the rationale of the action of medicine on the system in the cure of different maladies.

In order to give our readers some idea of the superior value of this edition over that of former ones of any of Dr. Cullen's works, we shall extract a passage or two as a specimen. They will have the goodness to observe that the additions made to the present, have *two* inverted commas placed at the commencement and at the end of each passage. We transcribe the first passage from the Physiology.

'XXXIII. As impulse of the bodies on the sentient extremities of a nerve does not occasion any sensation, unless the nerve between the sentient extremity and the brain be free (XXIX. 3.); and as, in like manner, volition does not produce any contraction of muscles, unless the nerve between the brain and muscle be also free, we conclude, from both these facts, that sensation and volition, so far as they are connected with corporeal motions, are functions of the brain alone; and we presume, that sensation arises only in consequence of external impulse producing motion in the sentient extremities of the nerves, and of that motion's being thence propagated along the nerves to the brain; and in like manner, that the will operating in the brain only, by a motion begun there, and propagated along the nerves, produces the contraction of muscles.'

"Sensation and volition, as far as they are connected with corporeal motions, are functions of the brain alone. This is put here with a view to a controversy, which has long subsisted in the schools of physic, viz. *What is the seat of the soul?* With many it is considered as diffused over the whole system, so that it perceives in the eye, and operates in the muscles; while others say that it is immediately and only connected with the brain, which has therefore been called the *sensorium commune.* Another statement of the question is, whether the soul occasionally acts in every part of the body, or if there is a *sensorium commune* with which alone it is connected? I maintain that there is a *sensorium commune*, and that this is the brain taken in its largest extent, the *cerebrum, cerebellum*, &c., and I have concluded this from the facts alleged. This may be illustrated with regard to both *sensory* and *motory* nerves, but it is clearest with respect to the latter. If you apply a ligature upon such a nerve, it has the effect of interrupting all power of will over the muscle. We might indeed suppose that the brain has nothing to do with this, and that it is owing to a superior portion of the nerve; but the contrary appears when the ligature removed to a part nearer the brain has the same effect. But the experiment may be diversified. We know that besides the power of the will there are other powers which excite the contraction of the muscles, and which should have been described in XXXII. when I said that the example adduced (sensation and volition) is not the only way of communication between the parts of the nervous system. Thus, the pricking of a needle between the ligature on the nerve and its extremity produces a contraction, while the will has no such power; but if we carry a puncture between the ligature and brain, we can produce no such action of the muscle. If a ligature or compression be applied to a

nerve of sense—of the latter of which we have frequent instances in the optic nerves—the impression, of light for instance, does not produce its peculiar sensation; but if we can go beyond the ligature, and apply a puncture between it and the brain, this will occasion a sensation, whilst there is no sensation by any application between the ligature of compression and the organ.

"This, I think, points out clearly that, from the part on which the impression is made, some motion is excited, and that this can be carried to the other extremity of the nerve. I say, therefore, 'we presume that sensation arises only in consequence of external impulse producing motion in the sentient extremities of the nerves, and of that motion's being thence propagated along the nerves to the brain.' It is in consequence of its arriving in the brain only that sensation is produced; so that sensation is a function of the brain alone: the soul perceives in the brain only, and not in the sentient extremities."

The next passage is taken from the author's Introduction to the Practice of Physic:—

'III. The prevention of diseases depends upon the knowledge of their remote causes; which is partly delivered in the general Pathology, and partly to be delivered in this treatise.'

"We observe, that almost every event may be considered as a part of a chain or series of causes which have in that series produced one another, and which, therefore, have produced the last effect, which we consider; and in so far every part of the chain may be considered as a cause of the last effect. Thus, a man on board a ship takes up a lighted match, and applies it to the touch-hole of a loaded cannon; this kindles the gunpowder; this produces an explosion, which pushes on with great rapidity the bullet; this bullet strikes on a piece of timber, divides it into splinters; these splinters happen to hit with great force the head of a man standing by, so that he is instantly killed. Now this death may be traced through this whole series of causes. The same applies to most other events in nature; and hence it is common to apply the term cause to each of these actions or motions. There is often, however, a necessity for distinguishing them into the more immediate and remote causes: in the above case, the stroke of the splinter was the immediate cause of the man's death; the whole series besides this were the remote causes. This very necessary distinction has been much employed in physic, and has given rise to the terms *proximate* and *remote* causes.

"Disease, considered as the effect of a particular state of the body, may be traced backwards in a series of causes, all of which may be called remote; but physicians have not been thus limited in taking the very immediate as the proximate cause. This will be best understood by an example. Pain in a joint constitutes the disease we call rheumatism; in tracing the causes, we find that pain is owing to an over-distention of the sensible fibres, in consequence of an overstretching of the blood vessels. We further find, that this overstretching is caused by the increased impetus of the blood from a stimulus applied to those vessels, often to the whole system, but often to particular vessels; and that this has for its cause the application of cold. Now the application of cold may be said to be the only proper remote cause; but the stimulus, the increased impetus, the overdistention, may all be considered as proximate causes.

"That the meaning of this may be better understood, we take another example. A fluctuating swelling of the abdomen forms the disease which we call ascites. We find that it has for its cause a quantity of water collected in the cavity of the abdomen, which may be further traced to an increased exhalation or effusion of the halitus that is constantly thrown into the cavity of the abdomen. This we may trace to some resistance to the motion of the blood in the veins of the abdomen, which may have for its cause a congestion of blood in the liver, arising again from a suppression of the hæmorrhoidal flux; and this, lastly, may have been produced by the external application of cold. Every link of this chain, again, may be said to be a cause of the ascites, some links being more immediate, and others more remote; yet physicians would, in this case, consider only the cold applied as the remote cause, and the suppression of the hæmorrhoidal flux, the congestion of blood in the liver, &c. as parts of the proximate cause.

"A scientific practice of medicine is founded upon the knowledge of the *indications*, of the changes to be produced in the body in order to cure a disease: whatever gives this indication is a part of the proximate cause; whether there be a series of causes and effects, or whether they act concurrently at the same time, if they continue to operate, and have a share in the effects observed, they are all considered as the proximate cause. It is often very difficult to assign the limits between remote and proximate causes. A remote cause may continue to form a part of the proximate cause: thus the splinter which I formerly mentioned may strike a man's body, and then be still fixed in the body, so as not to be easily extracted; and so long as it continues to be an irritant, and prevents the healing of the wound, it is to be considered as a part of the proximate cause. A plethora also is commonly considered, and may be considered, as the remote cause of a hæmorrhagy that afterwards arises; but whenever that plethora continues, it is to be considered as a part of the proximate cause of such hæmorrhagy. The only good definition of a proximate cause, is that given by Boerhaave, (Institut. §. 740.) 'Causa proxima morbi appellatur, tota illa simul quæ totum jam præsentem directe constituit; hæc semper est integra, sufficiens, præsens, totius morbi, sive simplex fuerit, sive composita. Hujus præsentia ponit, continuat morbum. Hujus absentia eum tollit. He adds, 'Est fere eadem res ipsi integro mobo;' and indeed this

definition of the proximate cause is scarcely to be distinguished from his definition of disease.

"It has been common to divide causes into *external* and *internal*, the last comprehending whatever has subsisted for some time before it produced its effects upon the body; the first, whatever is applied from without, and immediately operates its effects. There is often some use in this distinction of causes; but it is a great mistake to suppose that it implies the same as that between remote and proximate causes; there may be internal causes which are not proximate, and external causes which may be considered as a part of the proximate.

"Another distinction with regard to causes, viz. that into the *predisposing* and *exciting* causes, deserves attention; as, when an effect is produced by a particular agent acting upon a particular subject, which agent would not have acted upon every subject. Thus to recur to my former illustration, in order to kindle gunpowder, a spark can be produced only by the collision of two certain bodies, flint and steel. The collision of flint with soft iron will not produce the effect, which will therefore depend upon a concurrence of causes. Now the human body is at different times in different conditions with regard to its fitness for being acted upon by particular agents; such a condition is called a predisposition, and the causes which produce it are termed predisposing causes. All those agents, on the other hand, which produce their effects only under certain conditions, are called occasional or exciting causes."

These extracts are not given with a view of proving that Dr. Cullen taught any doctrines which are new to the profession at the present day; they are inserted merely to show the philosophic principles upon which his theory and practice was founded, and the defective and mutilated form in which his works were before presented to the public. By far the greater number of paragraphs throughout the present edition, have similar additions made to them; and the profession at large is greatly indebted to Dr. Thomson for the trouble which he took to collect such valuable and interesting materials.

Medical and Philosophical Intelligence.

Acupuncturation.—Dr. Elliotson gives the following brief summary of his experience in this operation. During the last three years, I have employed *acupuncture* very extensively, both in private and at St. Thomas's Hospital, in rheumatism. My experience perfectly coincides with that of Mr. Churchill,—of its being chiefly useful in the rheumatism of fleshy parts—rheumatalgia: and the more so, as the disease is less inflammatory. Indeed, when the parts are hot, or the pain is increased by heat, the remedy is generally useless, and cannot supply the place of antiphlogistic measures. On the same principle I have never seen it beneficial in any inflammation or inflammatory pain. Like Mr. Churchill, I find that one needle allowed to remain an hour or two in a part, is more efficient than several used but for a few minutes. The effects are often magical. The pain sometimes ceases while the needle is in the flesh, but generally three or four applications to each painful part are required. I have known the disease not entirely yield before the ninth. Of forty-two cases, taken in succession from the hospital books, thirty were cured; and the other twelve were clearly not adapted for it, as they were either accompanied or aggravated by heat, and yielded afterwards to antiphlogistic measures. It is occasionally a good mode of letting off the fluid in anasarca; but for this purpose, the needle requires to be passed nearly through the skin, and not to an inch or an inch and a-half, as in rheumatism. Neither is its use always attended with success, as in rheumatism. When practised below the knees, I have heard of it producing mortification; but above them, and in the arms and trunk, it appears free from danger.—*Medico-Chirurgical Transactions.*

Carbonate of Iron in Chorea.—The chief object, observes Dr. Elliotson, of the paper upon the subcarbonate of iron,* was to show that it might be given in doses of three or four drachms, and that it was almost a specific for chorea. The former point is now considered to be established, and I have since attended nine cases of the disease, every one of which yielded to the remedy. Some like the former cases were attended with headach, some had resisted other means. The time usually required varied from six to ten weeks: one was cured in four, and one in not fewer than twelve. I could not then satisfy myself that large doses were superior to small ones in any disease, but I have now met with several instances of disease yielding at once to large doses, after resisting those in common use. Its importance, to which also, I then alluded, in many cases of chronic ulceration, has been again repeatedly proved. I have treated a genuine case of traumatic tetanus with it, in doses of half an ounce every two hours, taken diffused in treacle with beef tea, and the mitigation of the disease upon its exhibition, was too

* Medico-Chirurgical Transactions, Vol. XIII., part 1st, 1825.

obvious for me not to ascribe the cure to the article in question. I have always conceived that we were upon a wrong scent in our attempts to cure tetanus and hydrophobia by narcotics, and that we should employ other remedies which exert a peculiar action upon the nervous system. The full powers of iron deserve to be fairly put to the test, when its exhibition is practicable.—*Medico-Chirurg. Transactions.*

Deleterious effects from the external application of Elaterium.—M. S. Richard, has inserted in the *Journal de Chimie Médicale*, some observations on this subject, from which we extract the following: Dr. Dickson of Edinburgh, desirous of examining the flowers of the momordica elaterium, L., obtained a specimen from the Jardin du Roi, and in order to carry it more conveniently put it in his hat, which he replaced upon his head. He was in a state of perfect health at the time, but half an hour afterwards, was attacked with violent headach, attended with a sense of constriction across the forehead, and followed by griping pains, catharsis, and at the expiration of three hours, vomiting of the contents of the stomach and a greenish bile. These symptoms, which began to show themselves about five in the afternoon, were continued, accompanied with fever, until the following morning, when they gradually subsided.

This case is singular, inasmuch as it proves that the simple application of the fresh branches of the plant, will produce a series of phenomena, almost entirely similar to those arising from its internal administration. From the experiments of Orfila with the extract of the plant, given by the mouth, or injected into the cellular tissue, it results; 1st, that the primary effects, depend as much upon the inflammation which it excites, as upon its absorption; 2d, when death occurs, it is to be referred to the lesion of the nervous system, sympathetically affected; 3d, it exerts, moreover, a special action upon the rectum, the mucous membrane of this intestine being always found more or less reddened in animals who have died in consequence of its injection into the cellular tissue. The *Dictionaire des Drogues*, contains two cases, analagous to that above related, in one of which *narcotisme*, attended with serious symptoms, arose from the application of powdered iris to the head; and in another, from carrying upon this part of the body, a large quantity of the Dulcamara, in its recent state.

Experiments on the Effects of Bryonine on the Animal System.—M. Collard de Martigny has extended to this principle the investigations of Orfila on the effects of the bryony root, and has obtained results which show that the chief properties of the root reside in the principle in question. The bryonine was first discovered by Brandes and Firnhaber; but M. Collard de Martigny has found it more easily separated by the process more lately suggested by M. Fremy, which consists in saturating the juice with ammonia, filtering the fluid, and evaporating it till a pellicle is formed on the surface. The pellicle is the impure bryonine, which is to be purified by solution in alcohol. Twenty-two grains of this killed a rabbit in ten hours when administered by the stomach, no particular symptoms intervened, and after death the stomach was found thin in some places, thick and hard in others, and its villous coat red, and interspersed with a few white granulations. Twenty grains injected into the pleura caused death in seven hours, attended with all the signs of pleurisy, namely, serous effusion, the formation of a pseudo-membrane, and gorging of the lungs. Thirty-four grains thrust under the skin of the neck and back of a dog killed it in fifty-eight hours, causing extensive inflammation and suppuration around the wound. Bryonine, therefore, is a pure irritant, which does not appear to act through absorption. It is much more powerful than the root which yields it; yet a given quantity is not so active as the quantity of the root from which it is procured. *Nouvelle Biblioth.*

Case of Ligature of the Carotid for supposed aneurism, proving fatal by laceration of the artery under the ligature. (*Nouvelle Bibliotheque Médicale.*)—The case we are now to describe occurred in the hospital practice of M. Lisfranc. A young girl had a tumour of the size of a pigeon's egg behind the right angle of the lower jaw; and as it presented to M. Lisfranc all the characters of an aneurism, he resolved to tie the common carotid. This was accordingly done, without any untoward accident happening; the ligature consisted of a single thread; and the wound was dressed so as to heal by the first intention. A few hours after the operation symptoms of inflammation of the brain arose, attended likewise with inflammatory symptoms referred to the throat and chest, but these were all subdued by the antiphlogistic treatment, and the girl on the eighth day appeared to be doing well, the tumour having diminished considerably, when, on bending the head to drink, she felt a sense of something giving way in the wound, and a profuse hæmorrhage ensued, which proved speedily fatal. On dissection it was found that the tumour was not an aneurism, but a fungous hæmatodes, of which a considerable portion occupied the middle cerebral fossa of the right side, the petrous portion of the temporal bone being mostly destroyed or converted into fungoid matter. The internal jugular vein was filled for six inches of its course with a polypus, adhering by two or three pedicles. In the carotid artery between the ligature and the heart there was a lacerated hole three lines long, partly closed by a fibrinous clot. The ventricles of the heart were much enlarged, and their parietes thinner than natural. There was in the posterior mediastinum an abscess containing a wine glassful of pus.—*Ed. Med. and Surg. Jour.*

Case of Intestinal Calculus. Communicated by Mr. Wickham.—Master W——, the son of a medical man, was attacked, in the morning of October 17th, 1826, with a severe pain in the right lumbar region, just above the crista of the ileum, for which he took four grains of calomel and a cathartic draught. The pill remained on his stomach, but the draught was soon rejected. In the course of the night, the pain became more acute, and was accompanied by continual vomiting. No evacuation could be procured till the third or fourth day; previous to which, the abdomen had become tense and painful on pressure. The pain in the original seat of attack remained unabated. I need not say that bleeding, blisters, purgatives, and glysters were, in the course of the attack, suggested and employed by Dr. Littlehales, my father, and myself. The inflammatory symptoms pursued an uninterrupted course, and terminated the existence of the poor boy on the 23d.

By desire of the father and friends, the body was inspected, and the state of parts was as follows:—The general aspect of the abdomen was such as is usual after inflammation; the situation of the viscera natural. In the neighbourhood of the cœcum, there was effused a large quantity of adhesive matter and pus; the cœcum itself and the bowels lying by the side of it, very vascular. The appendix vermiformis cœci had an ulcerated opening in it, and a calculus was on the point of making its escape into the abdomen. This concretion was about the size of a cherry-stone; another, somewhat larger, was sacculated in the appendix, nearer to the body of the gut. The calculus has somewhat the appearance and consistence of wax, though harder, similar to that which is occasionally found to pass per anum; but whether biliary or intestinal, I cannot determine.—*Lond. Med. & Phys. Jour.*

On the Predestination of the Sex; by M. Hufeland.—In a memoir printed in his Medical Journal, in 1819, M. Hufeland showed that the numerical relation of the individuals of the two sexes in man (21 : 20) is the same over the whole surface of the globe; that this relation does not depend either upon climate or planetary influences, or upon the generative act, but that the sexual difference already exists in the germ formed beforehand in the mother, and that the fecunding principle has only to give animation to it To the recent inquiries made in France, by MM. Olivier, Prevost, Dumas, and Girou de Buzamique, and the conclusions which they have elicited, M. Hufeland opposes several objections, viz. 1st, The sexual union of a middle aged man with a younger woman, being, for very natural reasons, the most frequent of all, there ought to result a very great excess of male children, which, however, is by no means the case; 2d, In long wars, where the class of young men is nearly exhausted in a nation, a marked excess ought to manifest itself on the side of the female sex, which, however, is never observed; 3d, The conjugal unions in which the parties are of equal age, ought to produce an equal number of male and female descendants, through the whole duration of life, which is not the case. 4th, Experience shows conjugal unions of middle aged men with young women, by which, however, there have been only female children; 5th, Even allowing all the combinations established upon the influence of the relative age of the father and mother, they are not sufficient to explain the constant relation of 21 : 20 between the sexes. The same objections may also be made to the influence attributed to the relative power of the constitution of the male and female, which has been estimated for the purpose of levelling the exceptions. With regard to experiments upon animals, it is clear that they are inapplicable to man. The numerical relation between the two sexes does not depend upon accidental circumstances, but is founded upon a superior law of nature, constant in all climates, and at every period of time, and always the same in all its relations.

Ed. New Phil. Jour.

Preparation of Sulphate of Quinia and Kinic Acid, without the use of Alcohol.—The following is the process of MM. Henry and Plisson: About two pounds of bark are to be coarsely powdered and boiled with water, acidulated with sulphuric acid in the usual manner. When the hot liquors are cleared, recently prepared and moist hydrate of lead is to be added until the fluid is neutral, and has acquired a faint yellow colour; this must be done carefully, lest too much hydrate of lead be added. As the decolouration of the decoction is necessary, the liquid, if it remains turbid until the next morning, must have a little more hydrate added and be refiltered, but the operation is rarely subject to this inconvenience, being usually finished in a few hours. The yellow liquid contains a little kinate of lead, much kinate of lime, kinate of quinia or cinchonia, a little colouring matter, and traces of other substances. The washed deposit consists of colouring matter, combined with oxide of lead, sulphate of lead, and a portion of free quinia; it contains no sub-kinate of lead.

The lead, dissolved in the fluid, is to be separated by a few drops of sulphuric acid, or a small current of sulphuretted hydrogen, and the filtered liquid is to be precipitated by adding caustic lime, previously mixed into a thin paste with water, until the earth is in very slight excess; in this manner the quinia is precipitated. The addition of sulphuric acid readily converts this quinia into sulphate, which may be obtained in very white and silky crystals. The fluid left after the separation of the quinia, contains a kinate of lime almost pure. Being evaporated until of the consistence of sirup, it readily crystallizes in a mass, which may then be purified by recrystallization. The kinate of lime may be precipitated by means of alcohol, and then be crystallized after solution in water or diluted

alcohol; or, by adding oxalic acid drop by drop, according to the directions of M. Vauquelin, the lime may be separated and kinic acid obtained. Two-thirds of the quinia or cinchonia in a specimen of bark may be thus separated, and with such facility as to offer a ready test of the presence of these alkalies in any wood or bark submitted to examination.—*Ann. de Chimie*, xxxv. 166.

New method of preparing the Ammoniuret of Silver.—To a solution of the nitrate of silver, add hydro-chloric acid till a precipitate of chloruret of silver is thrown down; wash the precipitate, till the water employed no longer produces any change in the colour of litmus paper; the chloruret thus purified, is exposed to the action of liquid ammonia, and after the solution is completed, caustic potash is gradually added; a lively effervescence immediately follows, the liquor changes at first to a brown colour, which by degrees assumes a deeper hue, and ultimately becomes entirely black; the process is completed, when a further addition of potash no longer occasions effervescence; if after the addition of a quantity of water, the solution be placed upon a filter, it will pass colourless or with a slight amber tint, leaving upon the filter a black powder, which was the cause of its colouration.

The powder retains its black colour, after having been carefully washed and dried; exposed to heat it is decomposed, and this process is accompanied with a detonation proportioned to the quantity of the powder employed; the same effect is produced by friction and percussion; it is entirely dissolved in a solution of ammonia, and resembles in every respect, the ammoniuret of silver, obtained in the usual method.—*Journal de Pharmacie, &c.*

Encephalitis caused by Electro-puncturation.—Giovanni Grassi, long subject to frequent paroxysms of vertigo, occasioned by gastro-cerebral congestions, which generally yielded without difficulty to proper evacuations, was at length attacked with apoplexy, accompanied with hemiplegia, loss of speech, respiration irregularly slow and frequent, pulse intermitting and at times scarcely perceptible, without however any indication of gastro-intestinal irritation. Under the influence of an appropriate treatment, these symptoms nearly disappeared at the expiration of a few months; the pulse became more regular, the articulation more distinct, and he had acquired some power of motion over the paralyzed members, when Dr. Strambio proposed electro-puncturation, with a view of rendering the ennervation more complete, and it was accordingly performed by Dr. Fantonelli in the following manner: A needle was introduced into the inferior part of the neck on the sound side, and another into the external malleolus of the affected limb; a metallic wire, communicating with the two needles, was brought in contact with a voltaic pile of five pairs; the negative pole corresponding with the needle in the malleolus. The introduction of the needle was not painful, but each stroke of the pile, gave rise to acute pain and violent contractions in the neighbouring muscles, especially those affected with paralysis. The pain was more intense at the negative pole, and becoming intolerable after five or six strokes, the operation was discontinued, and subsequently repeated twice, at intervals of a day. After the first experiment, the patient appeared more lively, and could move his limbs more freely than before; some slight indisposition followed the second, and a violent fever with all the indications of cerebral congestion, was the result of the third. The encephalitis yielded to vigorous depleting measures, but the patient relapsed into the state in which he was, subsequently to the apoplectic attack; his speech is almost entirely lost, and the motions of the legs extremely feeble. Arnica and the Rhus Radicans have been tried, but have proved rather injurious than beneficial.—*Giorn. crit. di Mèd. Analitica, Milano.*

Hypertrophy of the Brain.—A painter about 30 years of age, of an athletic form, whose reason had been somewhat impaired for several preceding months, was found motionless extended upon the ground, and carried to La Charité, where he died eight days after his admission, presenting symptoms of profound cerebral disease, with some indications of colica pictonum, such as retraction of the abdominal muscles, constipation, &c. He had no consciousness of his words or actions, and when interrogated, his brief replies were made at random, and generally had not connexion with the question put to him. There was, moreover, insensibility of the whole body, the face alone excepted; the muscles of which could be excited to contraction, when irritated.

On dissection, the abdominal and thoracic viscera were found in a state of perfect integrity, and the brain, at first sight, presented nothing remarkable; a nearer inspection, however, readily detected the characters of a true hypertrophy; the anfractuosities were almost entirely obliterated, and the two ventricles reduced to a single cavity, scarcely capable of containing a nut; the weight and consistence of this organ was much increased; there was no effusion of serum in any part of its substance, and the ventricular parietes were in immediate contact.—*Archives Générales, &c.*

The following plan was successfully adopted by M. I. Terrier fils, in order to extract a portion of a silver catheter, which had been broken, and left in the bladder by the patient, three days before. Having ascertained the situation of the broken piece, which occupied the neck of the bladder, and about an inch of the urethra, a large silver canula was passed down until brought in contact with it, and maintained in apposition, by means of the finger introduced into the rectum. A kind of

perforator, made for the purpose, eight inches in length, gradually lessening in diameter at its inferior extremity, which was armed with a number of small points, was then introduced through the canula, and by a rotatory motion made to enter the cavity of the detached piece. The points on the extremity of the perforator served to fix it in its situation, and the whole was withdrawn together.—*Repertoire Général d'Anatomie, &c.*

Active alkaline principle of Conium Maculatum.—According to M. Brandes, the best method of obtaining this alcaloid, consists in digesting the fresh plant in alcohol for the space of the three or fours, evaporating the filtered liquid, and agitating the residuum with water; this mixture is subsequently treated with alumine, magnesia or the oxide of lead, the whole evaporated to dryness, and the residuum again subjected to the action of a mixture of alcohol and ether, which is again evaporated, in order to obtain the coniin. This principle, which has been already recognized and named by M. Peschier, possesses very striking alkaline properties. According to M. Giseke, the aqueous solution forms a copious reddish precipitate, with the tincture of iodine, gives a brownish tint to the tincture of galls, precipitates the hydro-chlorate of zinc, and the sub-nitrate of mercury of a yellow colour, produces a slight cloud in the solutions of the sub-carbonates of potash and soda, gives a brown colour to a solution of the hydrochlorate of platina, and throws down a whitish precipitate with the nitrates of silver and barytes, the acetates of barytes and lead, the hydro-chlorate and hydrate of lime.

Half a grain of this principle produced death in a dog; the symptoms resembled those following the exhibition of strychnine; upon dissection the vessels of the brain, the right auricle of the heart, the superior cava and jugular veins were found engorged with blood, while the abdominal viscera were altogether deprived of that fluid.—*Bull. Univ.*

Singular habitude of Phosphoric Acid with Albumen.—MM. Berzelius and Englehart differed in their results respecting the effect of phosphoric acid on albumen; the latter found the acid caused precipitation of the substance, the former the reverse. Fortunately coming into company, they made some experiments, and discovered a very singular property of the acid. The acid in Berzelius's laboratory not precipitating albumen, Dr. Englehart prepared a fresh portion from phosphorus and nitric acid, evaporating the solution in a platina vessel, and heating it to redness. This acid dissolved in water, precipitated both animal and vegetable albumen abundantly. Another portion of acid, prepared by burning phosphorus in air, also precipitated albumen. After many experiments to discover the cause of difference in the acids, Dr. Englehart remarked, that the two acids he had prepared, gradually lost their power of precipitating albumen, and in some days were like the acid of Berzelius. This change took place both in open and closed vessels, and was not at all hastened by ebullition. Upon evaporating the acid, and heating it to redness, it recovered its precipitating power, but gradually lost it again by a day's repose. The cause of this difference escaped detection; it evidently does not depend upon a difference of oxidation. "May it not be supposed," says Berzelius, "that there exists a chemical combination of phosphoric acid with water, which is not formed until some time after solution, and which is incapable of precipitating albumen?"—*Annales de Chimie*, xxxvi. 110.

Sugar of Liquorice.—The following is the process adopted by M. Berzelius, for obtaining this vegetable principle in a state of purity. A warm infusion of the root of the plant is filtered, and when cooled, small quantities of sulphuric acid are added as long as any precipitate is thrown down; the latter is the principle in question, in combination with the acid. It is washed successively in acidulated, and pure cold water, and the mass afterwards treated with alcohol, in order to precipitate the vegetable albumen. To the solution thus purified, the subcarbonate of potash or soda, is added by degrees, until it no longer occasions effervescence; the solution is then evaporated to a certain extent, to occasion the precipitation of the alkaline sulphate, after which the evaporation is continued, and the sugar obtained in the form of a yellowish transparent mass, possessing the peculiar taste of the root, readily soluble in water and alcohol, and communicating a yellow colour to the solutions. Acids precipitate it from its aqueous solutions, and the precipitates thus obtained, have a sweet taste unaccompanied with acidity, are readily soluble in boiling water, and assume a gelatinous form on cooling; they are also soluble in alcohol. With the salifiable bases, this principle also forms combinations, very soluble in water, and slightly so in alcohol. With the metallic oxides it forms insoluble compounds; all these combinations are perfectly neutral.

A substance precisely analogous to the sugar of liquorice, is also obtained from the *Abrus Precatorious*. The saccharine principle of the *Polypodium Vulgare* is of a different nature; its sweet taste disappearing under the influence of reagents.—*Bull. Univ.*

Hemiplegia treated by the alcoholic extract of Nux Vomica.—Rosa Baffoc, aged 56 years, of a sanguineous temperament, had an attack of apoplexy, during parturition, fifteen years before; from which she entirely recovered, with the exception of a slight affection of her speech; in August 1824, she had another and more violent attack. The usual treatment in such cases was employed by Dr. Chiavelli, and the apoplectic symptoms gradually disappear-

ed, leaving however an incomplete paralysis of the left side; some slight motions only were performed by the leg. A variety of external means, such as blisters, frictions with tartarised antimony, stimulant embrocations, &c. was unsuccessfully employed, and Dr. C. ultimately determined to make trial of the strychnine, considered by M. Magendie as possessing an elective action over the medulla spinalis. On account of the debility and excitability of the patient, the alcoholic extract of nux vomica was preferred to the pure strychnine, and was given at first in the quantity of half a grain, gradually increased to two grains morning and evening. This remedy continued during fifteen days, excited spasmodic contractions throughout the body of the patient, and a state of general orgasm succeeded to her previous tranquil condition; she complained of a burning heat of the skin, her countenance was suffused, eye brilliant, pulse full, tense and hard. The extract was discontinued, and the morbid excitation removed by repeated venesection; still, however, she had reacquired no power of motion over her arm. She was now placed upon a simple regimen, general depletion occasionally employed, and she ultimately recovered so far as to perform some slight motions with her arm, and to be able to walk with assistance.—*Journal des Progres, &c.*

On the treatment of Amenorrhœa and Leucorrhœa. Révue Med.—The July number of this Journal, contains two short but instructive papers on the subject of amenorrhœa, and its concomitants, particularly leucorrhœa. The author of one of them, M. Moulin, considers chiefly the form of the disease which attacks robust, plethoric females, and which is characterized by the cessation of the discharge being speedily followed by a febrile state of the pulse, and symptoms indicating a determination of blood to one or other of the great cavities, if not actual inflammation of one of the viscera. In such cases it has long been the custom to use the lancet, and M. Moulin has given some excellent examples of the efficacy of such treatment. He states, that when blood was drawn on the day before that on which the flow of the catamenia, but for the suppression, would have begun, he has found it reinstated almost invariably, and sometimes the restoration took place while the blood was flowing from the arm. When leucorrhœa accompanied such cases, it ceased at once after the bleeding, if the menstrual discharge was restored. M. Guibert, the author of the other paper, after a few observations, in which he concurs with M. Moulin, as to the advantage and peculiar effects of blood letting in the amenorrhœa of robust plethoric people, proceeds to notice the chief emmenagogues which he has found useful in the other variety, the amenorrhœa, namely, of females of a feeble, nervous, and lymphatic temperament. Of all the substances he has tried, none have appeared to him to be so steadily successful as Venice turpentine. The form in which he uses it, is that of pill compounded of two parts of turpentine, three of Castile soap, and the necessary quantity of liquorice-root powder, each pill containing four grains, and ten being the daily dose. Even in inveterate cases he has seldom been obliged to continue the treatment above twelve days.—*Ed. Med. and Surg. Jour.*

Spontaneous Emphysema. (*Rust's Magazin für die gesammte Heilkunde*, 1826.)—A stout man, 59 years old, was attacked with cough, accompanied with acute pain in the right side, and a sensation there as if something was forced outwards at each cough. He did not apply for medical advice, however, till he remarked a tumour in the seat of the pain. When he was first visited by his physician, the pain was felt on a small spot between the seventh and eighth ribs of the right side, a few inches from the spine; the whole breast and side of the chest were much swollen, the swelling being evidently emphysematous, and when the tumour was pressed down with the finger, over the seat of the pain, it was at once restored with the next fit of coughing. The emphysema gradually extended day after day, till the whole trunk and head, both arms, and even the right thigh, were affected. As suffocation seemed then to threaten the patient's life, incisions were made in various parts, and air escaped from the apertures when the body was moved, or when pressure was made around them. On the back, where the swelling was greatest, incisions could be made an inch and a half in depth without coming in contact with the muscles. The difficulty of breathing was thus removed; but the disease continued some weeks longer, till at length, an incision was made near the spot where it was presumed the air escaped from the chest. Inflammation of the part was thus induced, terminating in induration of the cellular tissue and closure of the opening.—*Ed. Med. and Surg. Jour.*

On the relative Proportions of certain parts of the Eye of the Fœtus, compared with the same parts of the perfectly developed Eye. By Professor Carus.—The remark has already been made by some anatomists and physiologists, that the human eye, as well as all the organs, runs through a series of degrees of development, in which its analogy with the eye of animals is so much the greater, the nearer it is to its first formation. The object of Professor Carus, in his memoir, is to follow out this proposition in some of its details. The following are among the most interesting results of his investigation.

The eye of man, compared with that of animals, presents the most extended retina, in proportion so the size of the eye-ball (consult Soemmering's Plates, *De Oculorum hominis animaliumque sectione horizontali*, Gotting. 1818.) The vitreous body of the human eye is the largest of all, compared with the bulk of the crystalline humour: the portion of the eye-ball which

covers the transparent cornea, and which allows the iris and pupil to appear, is smaller in proportion to the part which the sclerotic covers; and this proportion is modified only in birds, especially the birds of prey, in which the extraordinary breadth of the ciliary processes puts limits to the extension of the retina, which is kept at a distance from the edge of the cornea. In the eye of animals, also, the sclerotic scarcely appears under the palpebræ, while a considerable portion of it is visible in the human eye.

It is equally observed, in the different forms of the latter, that the relation of the extent of the iris and pupil, to the surface of the visible portion of the sclerotic, is not always the same. In children, the iris and pupil have a greater proportional extent, exhibiting an analogy with the eye of animals; and in adults a larger iris with its pupil, seems to us rather to be the expression of physical power, while an eye in which the contrary takes place, and in which the sclerotic coat shows itself to a great extent, expresses rather something spiritual or celestial. The pious painters of the old Italian and German schools had a clear idea of this proportion, and in their representations of eyes of virgins, angels, Christ, and saints, it may be seen that the pupil and iris are smaller in relation to the sclerotic, than they are in well formed ordinary eyes. From this it may be presumed, that the eye of the fœtus will equally present modifications in the proportion of the parts of which it is composed. The results which M. Carus has obtained, in consequence of accurate measurements, are the following: That the proportion of the breadth of the iris to that of the globe of the eye, as well as that of the iris to the axis of the eye-ball, increases with age; that the eye of the fœtus only assumes by degrees the proportions that obtain in the eye of the adult; and that the smallness of the iris, in proportion to the diameter as well as to the axis of the ball of the eye, is one of the characters by which the fully developed human eye is distinguished, both from the eye of the fœtus and from that of animals.—*Ed. New Philosoph. Journal.*

Monopodia.—M. Cruveilhier recently presented to the *Societé Anatomique*, a fœtus, the two inferior extremities of which were united throughout the greater part of their extent. The two femurs were blended together in their superior third, and separated below; the legs, united throughout, were composed of three bones; the one in the middle, represented the fibulæ consolidated into one, the tibiæ being situated externally. The feet, connected by their external margins, formed also a single member, with nine toes, the plantal surface being situated superiorly, and the dorsal below. The middle toe was formed by the junction of the two little ones. The osbones calcis, the curboides, and the fifth metatarsal, were likewise soldered together. The pubes were completely anchylosed upon the median line, presenting a crest, projecting posteriorly; their posterior face was directed upwards, and supported upon its concave surface a pouch filled with fluid. The two ischia, united in their ascending branches, formed a middle crest, with only one tuberosity, obliterating almost entirely the inferior outlet; the obliteration was rendered complete by a vast cotyloid cavity.—*Journal des Progres, &c.*

Rupture of the Heart.—A poor man, aged 70 years, according to the account given by his friends, had always enjoyed good health, until about four or five days preceding his death, which happened suddenly, when apparently convalescent, some fifteen minutes after having made a copious repast. On examination the cartilages of the ribs were ossified to such a degree, that they could with difficulty be divided with a strong knife; the pericardium was filled with blood, which had also escaped by an opening, made probably by the knife, into the cavity of the thorax; a large rent was found on the anterior surface of the left ventricle, surrounded by several small ulcerations, which appeared to have arisen from ulceration of the substance of the heart; there was neither in this organ, nor in the aorta, any impediment, or malformation which afforded any explanation of the rupture.

A whitish mass, five inches in diameter, partly ossified and partly membranous exteriorly, was found adhering to the anterior surface of the liver, and containing a limpid serum, with several hydatids of various sizes. The stomach was unduly distended by a large quantity of aliment, the immediate cause, probably, of the rupture.—*Journal des Progres, &c.*

Mutual Action of Lime and Litharge.—M. Fournet heated a mixture consisting of 7.12 parts of calcined lime, and 27.89 parts of litharge, very strongly; a coherent mass was obtained, which, pulverized and digested in water, gave, when filtered, a perfectly clear and colourless liquor, which, when treated with sulphuretted hydrogen, threw down an abundant black precipitate: hence oxide of lead is rendered soluble in water by means of lime.—*Ann. des Mines*, i. 538.

Accouchement after death, and absence of the Pericardium.—A case of this kind is related in Rust's Magazine by Dr. Wolf, as having occurred in a woman 42 years of age; the child was expelled the day following her death; the heart was found floating loosely, without its pericardium, in the left thoracic cavity. This fact evidently proves, if indeed further proof were necessary, that the different organs successively lose their vitality, and that in this instance the uterus was the *ultimum moriens*. In relation to the absence of the pericardium, this is a possible occurrence, notwithstanding the assertion of Haller and Morgagni,—in such cases, its office is supplied by the pleura. An instance in which this membrane was wanting, is related in the *Bul-*

letin des Sciences, Médicales, Tom. x. art. 6. 1827.—*Bull. Univ.*

Ossification of the Tunica Vaginalis.—M. Yvan presented to the Academie Royale, the tunicæ vaginales taken from an old man, eighty three years of age, in a state of ossification. The enclosed testicles were sound, and surrounded by a minute quantity of serum. M. J. Cloquet has seen with Beclard, two similar cases; and M. Amussat has extirpated a carcinomatous testicle, which was scattered over with osseous points.—*Archives Générales, &c.*

M. Lisfranc announces that he has recently performed four new amputations of the neck of the uterus, and adds that this operation is much less painful than one would, a priori, be inclined to suppose.—*Revue Medicale.*

Distribution of Nerves in Muscular Fibres.—In a memoir on muscular action, MM. Dumas and Prevost have communicated some very interesting microscopical observations on the distribution of the nerves in the muscular fibres, and on the forms which these latter assume during their contractions. They placed a thin piece of muscle, retaining its nerves, under the microscope, and made it contract by means of galvanism. The fibres contracted by bending in a zigzag manner, and the last nervous filaments were seen to proceed parallel to each other from the branch giving origin to them, to be inserted precisely at the points where the fibres form their angles.

Commentatio Chirurgica sistens extirpationes steatomatis in Pelvis cavitate radicantis; auct. G. F. Kohlrusch. The tumour, the removal of which, forms the subject of this interesting dissertation, weighed eighteen pounds and a half; its attachments extended into the pelvis, as far as the sacro-sciatic ligaments, sacro-iliac articulation and rectum. The enormous wound resulting from the operation cicatrized without difficulty, and the patient was discharged cured, at the expiration of four months and a half.—*Bull. Univ.*

Largest known masses of Native Platina.—Before Humboldt's return from America, small grains only of platina were known to naturalists. On his arrival in Prussia, he deposited in the Berlin Museum a native specimen of Peruvian platina, weighing 1083 grains. For 20 years, this remained the largest specimen in Europe. Since 1822, the Museum of Madrid has been enriched with another American mass of platina, weighing 11,641 grains. A few months ago, a still more remarkable mass was discovered in the Urals, weighing $10\frac{5}{9}\frac{4}{9}$ Russian pounds. It is deposited in the Museum of St. Petersburg. The relative weights of the platina of Berlin, Madrid and Petersburg, are as 1, 11, 75.

New Publications.

Researches into the Causes, Nature and Treatment of the more prevalent Diseases of India, and of warm climates generally. Illustrated with Cases, Post Mortem Examinations, &c. &c. By James Annesley, Esq. of the Madras Medical Establishment, late Surgeon to the Madras General Hospital, M. R. C. S. and M. R. A. S. In Imperial 4to. with a Map, and numerous coloured engravings of Morbid Structure. Vol. 1.

Surgical Observations on the Treatment of Chronic Inflammation in various structures; particularly as exemplified in the Diseases of the Joints. By John Scott, Surgeon to the London Ophthalmic Infirmary, and Assistant Surgeon to the London Hospital.

Memoirs of the Life, Writings, and Character, Literary, Professional and Religious, of the late John Mason Good, M. D. F. R. S. F. R. S. L. Mem. Am. Phil. Soc. and F. L. S. of Philadelphia, &c. &c. By Olinthus Gregory, L. L. D. Professor of Mathematics in the Royal Military Academy, &c. &c. 8vo. pp. 472.

On Tendency to Disease of Body and Mind in Refined Life, and the General Principles of Cure. By Leonard Stewart, M. D. Licentiate of the Royal College of Physicians.

Annotazioni Anatomico-Chirurgiche sul fongo midollane dell' occhio e sulla depressione della cateratta; de Parizza, professore di Anatomico umana nell' J. R. universita di Pavia; con tavola e appendice, in 4to. prix 24 fr.

Dell' enflammazione et della febre continua; considerazioni patologico-pratiche, di C. Tommasini, professore di clinica medica nella P. universita di Bologna, Tomo segundo. Pisa 1827, un fort vol. 8vo. prix 9 fr.

Observations sur la Nature et le Traitement de l'Epilepsie, par le baron A. Portal, premier médecin du roi, professeur au collége royal de France, et au Jardin du roi, membre de l'Institut, président de l'Académie royale de Médecine, &c. Paris, 1827; 1 vol. in 8vo.

Nasographie Organique; Par F. G. Boisseau, D. M. P. Membre des Académies royales de Médecine de Paris et de Madrid, &c. &c. Trois fort vols. in 8vo. Le tome 1er, est en vente. Prix 8 fr. 50 c. Les tomes 2 et 3 sout sous presse.

Literary Notices.

Dr. Foster, of Doreham, in Essex, is making researches into the causes of the liability of that part of Essex to intermittent fever, with the best mode of employing the quinine as a remedy. He will publish in a short time, an enlarged edition of his Researches into Epidemical, Endemical, and Periodical Diseases.

Beullaies' Memoir on Mutual Instruction, applied to the Study of the Elementary Principles of Medicine, translated into English, &c.

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From the Edinburgh Medical and Surgical Journal.

PHYSIOLOGICAL EXPERIMENTS AND OBSERVATIONS *on the cessation of the contractility of the Heart and Muscles in the Asphyxia of Warm-blooded animals.**

By James Phillips Kay, M.D. House Physician to the Royal Infirmary, Edinburgh, and late Senior President of the Royal Medical Society. No. 1.

Respiration can be suspended for a very short space of time ere alarming symptoms supervene. Vertigo, with a sense of cerebral oppression, are premonitory. To these succeeds an internal agony of the chest, gradually aggravated, until, in cases in which the experiment is voluntarily made, it is arrested by the inward conflict which subdues the most resolute. The surface at a somewhat later period becomes livid; the cerebral faculties, and motion and sensation are abolished; and the organic heat gradually fails first in the extremities, afterwards in organs where the circulation is more vigorous, and there is less exposure to the atmospheric temperature. To a superficial observer all the functions seem to have expired from the moment in which the individual lost the faculties of sensation, motion, and his intellectual consciousness; but the vulgar are deceived by appearances in regarding this state to be actually death. The functions of the various organs may often, after this state has been for some time established, be restored to their natural and healthy standard. The contractility of the muscles and the action of the heart continue vigorous during a considerable time; and in other structures the apparent death is not real. Though the action of many organs has been changed into one which is incapable of giving evidence of life by its usual phenomena, an action continues which is capable of supporting a life peculiar in its phenomena, until, by the use of means to restore the function of the lung and circulating system, the natural actions are resumed. In a similar way a depression of the skull may suspend voluntary motion and sensation.—When the depression is raised they are restored. The motive power, however, still continued in the muscles, but was not exercised from the want of a volition; and consequently no evidence of the surviving motility was evinced, unless the nervous influence had been excited by galvanism.

In the same way we may conceive that motions might be excited in the nerves of sensation by external stimuli, which would have so affected the cerebral organs as to have produced sensation, had not the action induced by these objects in the brain been so morbidly changed, or so feeble, as not to have affected the mind, so as to cause the phenomenon which we term sensation.

We can conceive no change to take place in any organ by which its function is supported without a motion; but whether this happen in simple fibres, or in secreting vessels, or in organic molecules, it is not necessary at present to inquire. That motion which supports the most healthy condition of the organ must be the best, and therefore there can be but one such action.

Every other must be less capable of supporting the function; and in proportion as they differ from this they will tend to suspend it. They become morbid; and we may conceive them to become so much so as altogether to change the result of the organization, and thus to pervert the function of the part. This we may conceive concerning every tissue in the body. The phenomena of all may be thus changed; and though it is improbable that organs, the accordance of whose action supported a life of certain phenomena, would be capable of assuming different actions, and yet preserve again the balance of their activity, so as to act together for any great length of time in the support of a life of different phenomena, yet we may conceive this to happen for a considerable period.

In this inquiry, therefore, we shall examine the minute detail of the phenomena, in order to acquaint ourselves with the manner in which each individual organ is affected. In this morbid state we shall find actions to continue for a very considerable period in all; in some, beyond the period in which any instance of the resuscitation of natural phenomena has occurred. Asphyxia appears to be a mode of life which has few of its usual phenomena, but

* Read lately before the Royal Medical Society, and communicated by Dr. Alison, Conjunct Professor of Institutes of Medicine, to the Medico-Chirurgical Society of Edinburgh.

in which actions proceed during a certain period in all the organs, which, by peculiar methods of treatment, are susceptible of being changed into those which exhibit the usual vital phenomena.

Death appears to us to consist in the disunion of the intellectual principle from the corporeal organization.

This connexion is maintained by various peculiar intestine motions in the various organs, of which one is the most perfect, and others are in various degrees morbid. General arguments appear to indicate the brain to be the intimate residence of this mysterious tenant. The intestine actions of the cerebral organization may be primarily or secondarily affected, that is, by the previous lesion of other organs, or without that lesion; but until these organic motions become such as to disunite the immaterial intelligence, life continues, though none of the usual evidence be given of its existence by organic motions. But as we cannot conceive, that when once the union between mind and matter has ceased, the intellectual principle can be recalled to the corporeal organization, all states in which resuscitation is said to take place must be only apparent, and consist only in a change from those morbid actions which suspended the usual phenomena of life, to those natural organic motions by which its usual functions and phenomena are supported.

Asphyxia differs from death, therefore, as in it the minute actions of tissues continue such as to support the connexion with the intellectual principle. Although in death, as after decapitation, (when we cannot conceive the intellectual principle to be connected with the corporeal organization,) contractility and nervimotion long survive, and minute organic movements are vigorous, yet they have lost that portion of the organization which maintains the union with the intellectual principle. Whilst life yet remains the minute actions may be so morbid that no means can revive those by which life can be supported for any period, and then death is certain. But the separation of the intellectual principle from the corporeal organization, may take place long before all motion has ceased, and then death has ensued; yet, as life may be restored in the early stages of asphyxia, it follows that death has not happened, and that this state must be regarded as life peculiar in its phenomena.

The first effect of interrupted respiration is to impede the progress of blood through the minute vessels of the pulmonary tissue. In the rapidity of its circulation there is a marked difference even in inspiration and expiration. Much might here be said concerning the pulmonary circulation in the different mechanical states of the lung, proving that it is retarded when the lung is comparatively collapsed, and *vice versa;* but the disquisition seemed to encumber this inquiry, and it has therefore, by the suggestions of a learned critic, been omitted.

When the access of atmospheric air to the lung is in any way prevented, a short interval elapses; the animal makes an attempt at inspiration, resembling a deep sigh, which is necessarily ineffectual. This is followed by rapid gasping, by which the whole body is agitated, and every muscle which has power in respiration is most violently convulsed to overcome the obstacle to the admission of air. The surface and mucous membranes become livid, the sensorial faculties are abolished, and at the same moment the action of the voluntary muscles ceases. The circulation and the action of the heart continue for a short period only. On more minute examination the whole capillary system is found to contain only dark fluid blood; the left auricle a considerable quantity; the left ventricle scarcely more than is sufficient to moisten its parietes: the arteries are empty, but the venous system, especially where it empties itself into the right heart, is gorged. The right ventricle, and auricle, and pulmonary artery, are distended to the utmost with a dark fluid blood. If the asphyxia have been produced gradually, the colour of the blood is darker, and the engorgement of the lung more perfect; and this always differs in proportion to the length of time in which it has occurred; but the left ventricle and arteries are invariably empty. On this subject the opinions of Haller, Kite,* (p. 56.) Coleman,† Bichat,‡ Orfila,§ agree in the general fact, differing somewhat in particular points.

This state of the circulation proves that the principal obstacle to the progress of the blood must be sought in the lung. Bichat, whose opinions on asphyxia led him to attribute much to the influence of the dark blood upon the heart, assents fully in the truth of this conclusion.‖

Besides the mechanical effects of air upon the lung, it has well known chemical relations with the blood, which must influence powerfully its progress in the pulmonary tissue. The minute vessels of all structures have peculiar sensibilities of organization, probably from the difference of their innervation, by which, in a healthy state, they circulate fluids of certain qualities only, and resist the introduction of any fluid foreign to their tissue by mechanical violence, so long as its peculiar sensibilities continue active. Thus, contiguous tissues circulate in their minute vessels fluids of very different qualities without commixture, and some in different degrees of the same succession of vessels always contain different fluids. In the lungs minute vessels exist, which convey the venous blood to the ultimate membrane of the pulmonary cells, where it is exposed to the atmospheric air. Changes ensue in its transition through this space which alter its qualities. The dark venous character is lost; it assumes the arterial red. It has more oxygen, and less carbon proportionally; and there-

* Elementa Phys. Vol. iii. p. 249.
† Suspended Respiration, p. 6 and 7.
‡ Sur la Vie et la Morb. p. 220.
§ Dict. de Med. Asphyxie, T. iii. p. 60.
‖ Sur la Vie, &c. p. 227.

fore, *a priori*, we should be induced to conclude, that the innervation or organic sensibilities of the minute vessels which circulate the arterial blood, must be different from those which convey the venous. Reasoning from the general laws of the economy, it must have been regarded singular, had the vessels of arterial blood in the pulmonary tissue been capable of conveying blood, with equal velocity, in all stages of the venous degeneration. In suspended respiration we should expect, that, so long as the oxygen contained in the pulmonary cells should remain unexhausted, the ordinary changes of the blood would ensue, and the circulation for a period would continue with its usual vigour; and in proportion afterwards, as the oxygen diminished, the blood not undergoing that change which would be necessary, in order that it might permeate the vessels of arterial blood in the pulmonary tissue, that its circulation would be impeded. As the change, however, is only gradual, and the susceptibilities of action in all tissues are great, the venous blood would doubtless penetrate with diminished velocity the pulmonary organization, until its characters should be so greatly altered, as no longer to be capable of exciting the action of the vessels of arterial blood. If, then, air were admitted, it would re-oxygenate the blood exposed to its action in the pulmonary cells, and bestow on it those qualities which are necessary to its circulation.

An experiment of Bichat is beautifully consonant with these conceptions.* "If a stopcock be adapted to the trachea, exposed and divided, and afterwards it be shut, the blood becomes darker, and springs for some time with its usual force" from a divided artery, "but at length the jet becomes gradually feebler. Readmit the air, the blood becomes almost immediately red, its saltus also rapidly increases." The blood, it will be remarked in this experiment, was observed to flow from an artery dark, and must therefore have permeated the lung without undergoing the usual changes. This, however, continues for a very short period.

Exp. 1.—The trachea of a large rabbit was tied, the abdomen and chest opened, and at the end of the second minute from the commencement of the experiment, the external iliac artery was divided, a considerable quantity of dark blood flowed, but at the third minute it had almost ceased to escape. The heart continued contracting vigorously; very small quantities of dark blood collected slowly every twenty seconds at the extremity of the artery. In five minutes all flow of blood had entirely ceased. The left heart contracted spontaneously for a very considerable period longer.

I repeated this experiment with similar results. In experiments of this nature I felt aware that the cessation of the arterial action might be attributed to the quantity of blood, which escaped when the artery is divided, so very soon after asphyxia has been produced.

Exp. 2.—I therefore tied the trachea of a small hare. The chest was opened. During three minutes the blood issued *per saltum* with a gradually diminished force from the mammary arteries, and then ceased. On putting my finger on the aorta I could discover no pulse. The aorta was divided, and a very small quantity of blood flowed, and immediately ceased. After three minutes and a half had expired, no blood flowed from the aorta; little blood had been lost. The heart continued vigorous the usual period, and all the other circumstances of asphyxia were observed as usual.

This experiment was confirmed by subsequent observations. I however varied it thus:

Exp. 3.—A rabbit was asphyxiated by tying the trachea. The chest was opened. At the end of three minutes and a half no pulse could be discovered in the aorta. The left venous sinus was then opened, the blood contained escaped, and blood from a period of from one to two or three minutes occasionally collected in very minute quantities, as though it gradually drained from the larger vessels of the lungs, but never, as often as the experiment was repeated, collected in quantity. The heart continued vigorous the usual period, and all other circumstances of asphyxia were observed.

The supply of blood from the lungs to the heart is arrested, therefore, a very short period after asphyxia has been produced. But in the experiment of Bichat, when the flow of blood from a divided artery in asphyxia had ceased, by permitting the usual supply of air to the lung, the circulation was immediately re-established with its usual vigour. Without the supply of oxygen the blood undergoes the asphyxial degeneration; and the circulation being arrested, we must conceive that the vessels destined for the reception of arterial blood are incapable of conveying blood which has undergone this morbid change. But when oxygen is again supplied to the pulmonary cells, the blood becomes arterialized, and at the same moment the circulation is re-established, the minute vessels acting as usual, when stimulated by arterial blood. The celebrated experiment of Hooke is of a similar nature with that of Bichat. It consists in reviving animals apparently dead from asphyxia, by insufflating air into the lungs, until the circulation and natural respiratory motions are restored.* Haller, in whose day the connexion of chemical laws with animal physiology was little understood, attempted to explain these phenomena, simply by the mechanical effect of the air upon the lung. "Sed pulmo per suas causas immeabilis, sanguinem ad ventriculum cordis sinistrum nullum transmittebat. Is idem pulmo, per aerem vi impulsum, extensis vasis, diductis vesiculis, sanguini pervius redditur, ut ex dextro corde, ad sinistrum venire possit."

I endeavoured to ascertain the relation of

* Sur la Vie, &c. p. 222.

* El. Phys. Vol. iii. p. 250.

arterial and asphyxiated blood to the lung in the following manner:

Exp. 4.—Two rabbits being secured, the trachea of the first was tied, and the chest immediately opened. About the third minute in general no pulse could be discovered in the aorta. The left venous sinus was divided, and the blood contained escaped. Small quantities collected to the fifth minute, or even the seventh. The lungs never collapsed. The pulmonary artery being tied close to the root, the beak of the syringe was introduced into its trunk. The vena cava of the same rabbit was divided, and asphyxial blood received into the syringe and injected into the pulmonary artery. I was once or twice deceived in the result. When not injected in quantity and with force, it did not permeate the lung, though immediately afterwards arterial blood obtained from the aorta of the second rabbit, penetrated it easily, and was discharged in quantity. But on repeating the experiment, using large quantities of blood, and injecting with greater force, the asphyxial blood permeated, and was discharged at the opening made in the venous sinus. Though this experiment cannot therefore be adduced in favour of the opinion which has been entertained, concerning the chemical relations of the blood to the healthy action of the minute vessels of the pulmonary tissue and its circulation, yet it cannot be adduced against it, the power of operating being so very different, the strength of the human arm, with the mechanical aid of a syringe, containing a much greater quantity of blood, being contrasted with the power of the right heart of a rabbit, acting with little energy in comparison, and on an extremely small quantity of blood.

This part of the subject is much illustrated by the experiments of Nysten. Bichat had supposed that air injected into the veins of animals was fatal by its noxious influence on the brain; and, carried onward by the impetuosity of his sanguine mind, he fancied that he had seen spumous blood filling the carotids and arterial system.

His experiments were carefully repeated by Nysten* with a totally opposite result. No air was ever found in the left heart or arterial system; but the right heart was always distended with a spumous bloody fluid, or with air. Nysten concludes from this appearance, that the injection of air into the veins is fatal, by producing distention of the heart, and mechanically resisting its contraction. He supports this opinion by experiments, showing, that when the spumous fluid is evacuated from the heart, by large openings made in the veins of the neck, the circulation is restored. I think, however, his own experiments contain the evidence, upon which a different explication must be founded. When air is injected in small quantities, death does not ensue; and, allowing some interval of time to elapse between each injection, he found it possible to convey into the circulating system of animals, without immediate death, much larger quantities than would produce that catastrophe, were the whole administered at one time. Two circumstances of great importance, however, succeeded those experiments. After repeated injections of air into the veins, the arterial blood assumed a darker hue. This effect in some measure depends on the absorption of a greater quantity of azote than oxygen in the dissolution of the air; but much must also be attributed to the embarrassment of the respiratory function, from the air present in the pulmonary blood-vessels.

When, however, repeated injections of air were performed at intervals, death did not ensue immediately. The injections were attended by some rapid and short respiratory motions indicating the pulmonary obstruction. These symptoms seemed in a great measure to vanish, when shortly after the animal coughed, which was the first symptom of fatal pneumonia, which in every instance rapidly terminated its life. These circumstances all tend to prove that repeated moderate injections of air into the venous system are always fatal, by occasioning great obstruction to the pulmonary circulation, and consequent inflammation. When exceedingly small quantities are injected, and the animal is left without a repetition of the experiment to the resources of his system, a temporary embarrassment ensues, and the animal gradually recovers. Nysten supposes that the gases have then been dissolved in the blood, and either been exhaled from the lungs, or passed into the general circulation. But when repeated injections are attended with a fatal pneumonia, he supposes, that, all the gases not being dissolved, the spumous fluid obstructs some of the pulmonary vessels, and excites inflammation. It seems therefore strange that he should not have regarded the lungs as that part of the system in which the obstacle to the circulation arose, when large quantities of air were injected. This mode of death is thus reduced to asphyxia, where the circulation, being arrested in the lungs, exactly similar phenomena ensue, from the interruption of the supply of blood to the various tissues. Manifestly, if small quantities of air have such fatal effects upon the pulmonary organs, we cannot conceive that much larger quantities would be able to traverse them.

The organic sensibilities of the pulmonary vessels appear also to be illustrated by the fœtal circulation.

If respiration were not necessary to the transition of blood through the pulmonary tissue, it would be difficult to conceive why the *foramen ovale* and *ductus arteriosus* should form separate, less perfect, and unnatural channels for the circulation. Why must all the contingencies attending the dilatation of the lung be hazarded? Why, if there be no obstruction during the absence of the air from the pulmonary cells, if the blood might circulate as freely in the fœtal as in the adult lungs, is it not transmitted through that medium, which, since it is longest employed, must be the best? In

* Recherches de Physiologie et de Chimie Pathologiques.

the adult, however, the deprivation of air is followed by a sudden arrest of the circulation. When oxygen is again supplied to the pulmonary cells, the pulse and life return. These phenomena indicate surely that the circulation is arrested in the lungs.

Goodwyn supposed that the action of the lung continued a longer period than the contractile power of the left heart; and that in asphyxia the circulation was interrupted, because the blood, permeating the capillary system and the lungs, became at length so far disoxygenated, that it was incapable of stimulating the left auricle, and stagnated in its cavity. We have however seen, that the action of the left heart continues long after blood has ceased to flow from a puncture made in the pulmonary veins. The experiments of Bichat also prove that the heart circulates dark blood for a short period. He injected dark blood into the left cavities of the heart without destroying their contractility, whilst respiration proceeded with the right lung, and the heart contracted vigorously.* "I† have also re-established," he says, "the contractions of the heart, weakened in different violent deaths, by the contact of the dark blood injected into the left ventricle and auricle from a syringe adapted to one of the pulmonary veins." It cannot, therefore, destroy the contractility. The phenomena of the cessation of motion in the left heart in common asphyxia are these. A smaller quantity of blood is received into its cavities, and expelled for a time vigorously into the arteries, the ventricle meanwhile diminishes in size, as the quantity of blood supplied becomes less, until at length, though spontaneous contractions still occur in its fibres, no blood issues from a divided artery, and the ventricle, by contraction, has obliterated its cavity. After this, blood slowly accumulates in the auricle from the large vessels of the lungs, and its contractility continues for a very considerable period. The obliteration of the cavity of the ventricle is especially evident in frogs and cold-blooded animals, where it becomes transparent. The contractility of the auricle, it must be remarked, continues, though it contains the blood which the hypothesis of Goodwyn supposes to be fatal to it. By reference to experiments in a more advanced part of this inquiry, it will be found, that the spontaneous contractions and motive power of the different parts of the heart continue, always in proportion longer as they contain more of the asphyxial blood. Thus, in the experiment of Haller, the left heart may be made to contract longer than the right, by retaining the dark blood in its cavity, and by discharging it by an incision made in the venæ cavæ from the right. The action of the auricle may even be restored to its former vigour, by re-establishing the circulation through the lungs, as in the experiment of Hooke, though evidently the insufflation of air into the lungs could not reoxygenate the dark blood contained in the auricle.

* Op. Cit. p. 215. † Ib. p. 216.

Bichat, however, observing that the circulation of dark blood continues for a period, and reasoning from thence that it must pervade all the tissues of the body, conceived that the functions of the various organs were destroyed, by the positive noxious qualities of the blood which circulated in their vessels. This theory, however, as far as it concerns the heart, is supported by no direct evidence. He relates no experiment by which the noxious influence of the dark blood on the heart is demonstrated. The theory principally rests on general arguments drawn from his experiments on other organs of the body. No analogy can, however, be drawn between the heart and other organs, excepting the muscles. The brain, upon which Bichat's most remarkable experiments were performed, has so little analogy with muscle, that, even were it allowed that his experiments conclusively prove the noxious influence of the dark blood upon the tissue of the brain, it would be impossible to infer that its influence on the muscles must be similar. The only direct evidence which Bichat adduces in support of his opinion, is the supposed influence of the dark blood on the muscles of voluntary motion.* "Inject into the crural artery of an animal this species of blood obtained from one of its veins, you will perceive the muscles soon becoming very sensibly feebler, and that sometimes immediate paralysis ensues." He then adds, that the ligature of the artery paralyzes the limbs, especially if it be placed upon the aorta; but does not attempt to show that the paralysis occurs earlier when dark blood is injected than when the artery is simply tied. The following experiment, however, proves that the effect is entirely owing to the ligature of the artery.

Exp. 5.—Three rabbits were secured. The abdomen of each was opened. The aorta of one was tied above the renal arteries, and also the left common iliac close to the aorta. In eight minutes the vena cava of the second was opened; the blood which immediately flowed was injected into the aorta of the first. The contractility of both extremities was found to be equally vigorous. At the fourteenth minute, the degree of contractility having been ascertained by the insertion of needles attached to the wires of a battery, another quantity of blood was injected. No difference could, by careful examination, be discovered in the contractility of the muscles in the two extremities. The injection of venous blood obtained from the cava of the third rabbit, was twice more repeated in the course of thirty minutes. At each interval between the injections, the wires were equally applied to the muscles of both extremities, their contractility gradually and equally declined in each, as in experiments in which the artery is simply tied. Some feeble contractile power survived one hour.—Wishing, however, to compare the effect in the muscles, and with the blood of the same

* Op. Cit. p. 278.

animal, *cæteris paribus*, the following experiment was performed. Present Dr. N.

Exp. 6.—If the blood of asphyxia have a more hurtful influence on the functions of muscle than the defect of the arterial blood, if we totally cut off the supply of blood to any muscle in asphyxia, its contractility ought to continue longer than all the others which are subjected to the influence of this fluid. The trachea of a rabbit was laid bare, a ligature was passed beneath it, and one also beneath the abdominal aorta, above the superior mesenteric artery. The aorta and trachea were tied nearly at the same moment. The muscles continued equally vigorous for some time on the application of the wires of the battery. They then equally and gradually declined in strength, and in one hour ceased, contracting to the stimulus at the same time, the muscle of the upper extremity appearing towards the close of the experiment to be somewhat stronger. This experiment was repeated. I afterwards varied it thus:

Exp. 7.—The trachea of one rabbit was tied. In another the chest was opened, and in one minute the heart tied at its base. The muscles continued contractile an equal time in both.

The supply of dark blood from the left heart in asphyxia has therefore no positive noxious influence on the muscles; but they are affected in exactly the same degree as when the supply of blood to their tissue is interrupted.

The connexion between the blood and the contractility of muscular fibre is most intimately involved in this inquiry. Blood is necessary to muscular contraction. The most superficial observer is at once impressed with the extreme vascularity and the deep red colour of its tissue when contrasted with that of the rest of the body. Its power is in the direct ratio of its vascularity. All diseases which diminish the quantity of blood impair its power, and most of the causes which augment it, are accompanied with a very evident increase of vascular energy. The colour in the young is scarlet, in manhood of a deeper red, and in old age it becomes a yellow and duller red.* It is influenced by sex, temperament, and diseases; is diminished in dropsy, consumption, hæmorrhagy, and in paralysis, the muscles often become pale and discoloured like cellular tissue. Bichat notices† that in many diseases of great prostration of strength the muscles become pallid; motion increases vascularity and power. "Some birds, as the black game,‡ thus have the external pectoral muscles of a deep colour, whilst the interior are pale." This appearance is observed in the most actively employed muscles of men of various trades. Fowler remarked§ that the contractions of a frog's leg were rendered much more vivid by exciting the vascular action.

Boerhaave, Stenon, Cowper, and many other of the older authors, knew that a ligature of the artery destroyed the contractile power of the muscle. Legallois, whose experiments in pursuit of other objects often led him to observe the same fact, conceived it merely to prove how necessary the circulation was to the nervous power. Etchepare* has lately more minutely observed its consequences. It must however be premised, that it is impossible to isolate any portion of the body by the ligature of large trunks, since the circulation in the capillary system continues, and with such vigour as to be able to supply nutrition to the part, until, by the increased size and activity of its vessels, it has again connected itself directly with the heart's influence. On ligature of the abdominal aorta in a dog, excessive weakness of the lower extremities ensued, and in eight or ten minutes the motions became almost imperceptible. I have witnessed these phenomena. The contractility is however perceptible by the stimulus of a powerful battery, from forty minutes to a somewhat longer period than one hour, though of course it continues but a very short time vigorous, and towards the close of the experiment the contractions are almost imperceptible.

It is remarkable, however, that though the presence of venous blood in the tissue of muscle, has been considered by Bichat and others to be fatal to its contractility, when the vein only is tied, or the artery and vein together, preventing the egress of this blood, the phenomenon does not so soon cease as in the simple ligature of the artery. The power of muscle does not become instantly extinct on the ligature of an arterial trunk, I imagine, because its capillary system still contains a great quantity, and the ligature only prevents the supply of blood from the arterial trunks which irrigate this system, whilst the communication with the whole capillary system, which contains a much greater quantity of blood than the arterial, remains unobstructed. In purpura and scurvy the blood does not coagulate after death, and these diseases are marked by great prostration of strength. In animals which have not the power of quick motion,† the arteries supplying muscles are subdivided into a net-work of extremely numerous small branches, which again unite, retarding the progress of the blood by this mechanical arrangement. From these facts Sir A. Carlisle concludes, that, for the rapid and frequent motions of any muscle, it is necessary that it should enjoy an ample and unobstructed supply of blood. Frequently also in diseases of the arteries, muscular debility, or from their obstruction, paralysis ensue. The subject is so extensive, however, that it is impossible to give a detailed view of it in this place, and I

* Dic. des Sciences Medical, T. xxxiv. p. 562.

† Anat. Gen. T. iii. p. 333.

‡ Phil. Trans. Carlisle, C. L. 1805.

§ Animal Electricity, p. 128.

* Magendie's Journal de Phys.

† Home's Comp. Anat. Carlisle, Croonian Lecture, 1800, 1805.

shall refer to the sources of information.* I have also in my possession the aorta and obliterated femoral artery of a case of this nature, in which the paralysis was perfect.† The power of contraction is therefore in the direct ratio of the quantity of blood circulating in its tissue, and its capacity is determined by the facility and velocity of that supply. When it is abstracted contractility ceases. Blood is therefore necessary to contraction.

Having from the preceding reasoning formed this conclusion, I inquired whether, after the contractility of muscle had expired from the ligature of an artery, it could be revived by the transfusion of blood, and whether of arterial only or of venous also.

Exp. 8.—A large rabbit and two small ones were confined. The chest of the first was opened on the left side, the aorta divided, and the beak of the syringe introduced into the lower portion. After waiting some time, it was found by repeated application of the wires, that the contractility was extremely feeble in the lower extremities. The chests of the small rabbits were opened, and ere this could be performed the contractility of the inferior limbs was found to have expired. The aortæ of the small rabbits were successively divided; the blood received into the syringe and injected into the aorta of the large rabbits. On applying the needles of the different poles of the battery to the muscles of the lower extremities, their contractility was found to have revived to the degree in which it was found after dividing the aorta of the animal. Present Dr. N.

Exp. 9.—In this experiment a large dog was secured. The arterial blood was obtained from his carotid, and the abdominal aorta tied. After the contractility had expired a considerably longer period than in the last experiment, the arterial blood was received into a warm syringe, and injected into the abdominal aorta whilst the animal was still breathing. The contractility of the muscles of the lower extremities revived. They contracted vividly a few times, and then became motionless. The blood of the dog coagulates so soon, that from this reason probably the power of motion expired earlier than in the other cases. Present Dr. N.

Exp. 10.—This experiment was performed on rabbits. The blood being taken from the abdominal aorta of one, and injected into that of the other, when the motive power was no longer perceptible, by repeated application of the wires of a galvanic battery in vivid excitation, the contractile power immediately revived, and continued vivid for some time. Similar experiments having been afterwards performed with blood of a different character confirming this result, I did not repeat these experiments oftener, especially as to the most eager adventurer in physiology, there is much that is deeply repugnant to the feelings in its pursuits.

Arterial blood is more favourable to contraction than venous. Some physiologists have even asserted that it is essential. Buffon found that newly born animals have the faculty of living a longer time submersed than adults. Edwards, in a work of the most laborious investigation and important results, discovered that this is intimately connected with the faculty of generating heat,* young animals producing less than adults; and that the period during which life continues in asphyxia is intimately connected with this law in animals of the same and different species, and in animals of the same and different ages. Thus hibernating and cold-blooded animals, at certain seasons of the year, may be said to have no proper heat, but assume the temperature of the atmosphere. The faculties of generating heat are *less* than in animals of warm blood; and at the period when least heat is produced, in winter, they live submersed much longer than animals of warm blood. In young mammiferous animals the faculty of living without respiration is intimately connected with this law, and they may be divided into two classes: 1. Those which produce so little heat that they may be said to have no proper temperature, but are influenced by that of external agents. 2. Those which generate sufficient heat to preserve an elevated temperature when the air is not too cold.

The first live long in asphyxia, the others a shorter space of time. In the submersion of these young animals, however, the circulation proceeds; and as the lungs have not been dilated by respiration, it must resemble that of the *fœtus*, the *foramen ovale* and *ductus arteriosus* remaining open. Buffon even thought, that by repeated submersion these channels might be caused to remain pervious, and that thus the animals would preserve the faculty of living a long period without respiration. The phenomenon, however, (were the result of the experiment, as it respects the channel of fœtal circulation, successful,) could not ensue, as the faculty of generating heat increases with the age of the animal, and it requires a greater supply of oxygen. One just conclusion, however, Edwards has, I think, neglected to draw from his experiments. Inquiring whether the blood in this state tends to support life in mammiferous animals, he asphyxiated them by submersion, but arrested the circulation by an excision of the heart in some. Those, in which the circulation was arrested, lived only half the period during which the others survived.

The same laws apply to the cold-blooded animals. In summer, and when exposed to high temperatures, they produce generally a greater quantity of heat, and lose the faculty of living long without respiration. But when

* Trans. of a Society for the Improvement of Medical and Surgical Knowledge, Vol. iii. p. 448. The Medical and Surgical Journal, Vol. xv. p. 14 to 16. Phil. Trans. Vol. xxiii. p. 1194. Granger's Medical and Surgical Remarks, p. 182.

† Edinburgh Medical and Surgical Journal, Vol. xvi. p. 308.

* Sur l'Action des Agens sur la Vie.

their temperature declines under the influence of continued cold, their faculty of generating heat is diminished. I have repeated the experiments in which Edwards discovered that cold-blooded animals can live respiring only the air contained in water. When they have been long exposed to a very low temperature, and water is at zero, they live submersed in water without oxygen two or three days. Their lungs being only an appendage of the general system, the circulation is not obstructed in them when they do not breathe, but continues as before. But if, *cæteris paribus*, they be thus contrasted, if the circulation be suppressed in some by the excision of the heart and bulb of the aorta, and others be exposed to similar circumstances with no supply of oxygen, but without excision; those, in which the circulation continues, live thrice the period that those, in which it is suppressed, survive. He concludes justly, that the asphyxial blood in these animals tends to support life.

But in the young animals, were the *foramen ovale* and *ductus arteriosus* closed, the circulation could not proceed, since the lungs, when they have not been dilated by atmospheric air, are not permeated by the blood of the general system, and after respiratory motions have been established, the circulation is arrested immediately after the loss of the usual supply of oxygen. The life of these animals is prolonged, therefore, because the lungs in asphyxia do not form in them an obstacle to the circulation of the blood, though the period to which this life extends is increased by their low faculty of generating heat.

We have remarked, that in these instances asphyxial blood certainly tends to support life. Its relation to muscle must be now minutely examined.

In former experiments, we have observed that the ligature of the aorta produces paralysis in various periods of time, seldom or never exceeding forty minutes or one hour; but the ligature of a vein occasions paralysis after some hours only. I have often performed experiments, of which the following is an example.

Exp. 11.—In a full grown rabbit, the common iliac artery of one side, and the common iliac vein of the other, were tied.

A galvanic battery of forty plates was used to stimulate the muscles of the extremities, the integuments of which were removed from an equal space. The wires of the battery were applied every quarter of a minute to each extremity, for seven minutes, when the contractions became weak. In about a quarter of an hour they were imperceptible in the limb in which the artery was tied, and ceased shortly afterwards, probably because the battery was very powerful, and they were constantly stimulated, though both limbs were equally galvanized. The contractions in the other appeared to be under the influence of the will. The contractility continued, though somewhat feebler, but in three hours the change had not proceeded rapidly; the contractions were still energetic. The cessation of contractile power ensues earlier when both the artery and vein are tied, but not so soon as when the artery alone.

Dark blood is therefore less favourable than arterial to the contractility of muscle, but its presence in the tissue supports this power a considerably longer period than when the artery is simply tied. That venous blood is favourable to muscular contraction is confirmed by the following experiments.

Exp. 12.—The abdomens of two rabbits were opened, and the abdominal aorta having been tied above the renal arteries, the beak of the syringe was introduced into the lower portion. The common iliac artery of the left side was then secured. The motive power continued strong to the stimulus of the battery half an hour. I then observed that the vena cava was extremely distended, and remembering M'Fadyen's experiments on the motion of the blood in the veins, I aided its ascent by constantly drawing my finger along the vessel towards the heart, and then preventing its return by pressure, and performing the same action with the other hand. After having continued this about three minutes, during which time a very considerable quantity of blood had been propelled towards the heart, I was surprised to find that the muscles, which had before been very energetic, had almost lost their contractility—the feeblest and most tremulous motions only being performed. Immediately afterwards, no contraction could be obtained from repeated applications of the wires. The vena cava of the second rabbit was divided, the blood received into the syringe, and injected into the aorta of the first. The contractile power of the right leg, in which the artery was pervious, immediately became strong; that of the left limb, in which the iliac artery was tied, remained extinct. In a few minutes more, a second quantity of blood, which had collected from the divided cava, was injected, and in a few minutes a third. Vivid contractions ensued, on the application of the stimulus in the right limb, and continued, though with decreasing force, a quarter of an hour.—Present Drs N. and B.

Exp. 13.—The experiment was repeated on two smaller rabbits. The aorta and left iliac of the first were tied. In half an hour the contractility of its inferior extremities became weak, and then suddenly expired. Care was taken by repeated applications of the needles attached to the wires, to prevent any motion remaining unobserved. A small quantity of blood only, from the size of the animal, could be obtained by the syringe from the cava of the other. It was injected, and the contractility of the right leg, in which the artery was pervious, immediately and remarkably revived on applying the stimulus; the other leg remained perfectly immotile. The injection was repeated with increased effect. The experiment could not, however, be prosecuted any further from the want of blood, and the motive power soon expired.—Present Drs. N. and B.

I had observed, that after the ligature of an

artery, the congestion of blood in the veins of the muscle maintains its contractility a longer period than when the artery is simply tied. I then inquired whether the asphyxial blood had the same power. In experiments, I had found that the asphyxial blood, when freely supplied by the natural contractions of the heart to the muscles of voluntary motion, had no positively hurtful influence. The contractile power of such muscles continued as long as in those to which the supply of this blood was prevented. But the congestion of venous blood appears to have the power of maintaining contractility a certain period. Does the blood of asphyxia maintain this phenomenon of muscles in a similar way? I observed that the muscles of the superior and inferior extremities were equally congested, from the accumulation of blood from the general system of minute vessels in all the structures of the organization, the inferior with venous, in the sixth experiment, and the superior with asphyxial blood, and the contractility remained during the same period in each. Was not, I inquired, the contractile power of the superior extremities maintained by the congestion of asphyxial blood in their veins?

Exp. 14.—The abdominal aorta and vena cava, and the trachea of a rabbit, were tied at the same time. The chest being opened, the lungs were found well dilated. After a few minutes had expired the superior cava was divided. The needles attached to the wires of the battery were then applied to the muscles of the upper and lower extremities; they were equally and vigorously contractile. From the superior cava flowed a great quantity of blood, which had the asphyxial characters. The muscles of the upper extremities became gradually feebler, and their contractility expired in thirty-five minutes. Those of the lower extremities were very vigorous, when the contractility of the superior was extinct, and continued so during twenty minutes afterwards; and contractions could be obtained by the application of the wires, at the expiration of one hour and a quarter.

These experiments appear to prove, that neither asphyxial nor venous blood have any noxious influence upon the contractility of the voluntary muscles, but that their presence supports the contractile power for a considerable period. The analogy which therefore Bichat has drawn from the influence of venous blood upon the voluntary muscles is futile.

The heart, it may be objected, has a peculiar sensibility; it differs from the voluntary muscles in having a peculiar innervation—in its constant action—somewhat in the distribution of its vessels—and the right auricle is regarded by physiologists as the *ultimum moriens*. These circumstances are sufficient to throw on any analogy drawn from the muscles of voluntary motion a doubt, which, in the investigation of truth, it is necessary to remove. The fact, that the right auricle continues longer motile than any other muscle, has been regarded since the days of Galen as evidence of some peculiarity in the contractile power of the fibres of the heart. It has been generally esteemed to prove that the heart has, in the language of the day, a greater proportion of vital energy, or in that of Haller, a greater irritability.* For instance, Orfila,† commenting on the opinions of Bichat, says, "the heart which is not so soon paralyzed as the other muscles continues still some time to propel the venous blood to all the structures." The continuance of the contractility of the right auricle, after all other muscles have ceased to act, appears to favour this opinion. Nysten and Haller‡ agree in their observations on this subject. The right ventricle and auricle in common death always contracting longer than their corresponding systemic cavities, and the venous sinus and auricle longer than the ventricle. In the experiments of Nysten the action of the ventricles expired before that of the voluntary muscles. The dependence of the muscular contractility on the proper supply of blood has been previously shown, and it is probable that the continuance of contractility, after the obstruction of the great vessels, depends on the general anastomoses of small branches, and the uninterrupted communication of the capillary system, which maintain a supply sufficient to support a feeble contraction. Now it is evident, that, from the imperfect connexions of the heart, with the general capillary system, by means of continuous tissue, this communication must be more imperfect in this than in any other organ; and that, consequently, its contractility, unless supported by some other means, ought first to expire. But the right auricle ceases last to contract. The contractility of different parts of the heart expires at different periods.

Have these phenomena any connexion with the state of its vascular system, or by what other means is the contractility of the right side of the heart supported longer than that of the left? The continuance of the contractility of each auricle beyond that of its ventricle may perhaps be attributed to the difference of tissue between an auricle and a ventricle; either to the actual difference of the muscular or of the nervous system in an auricle, which, exposed to the same causes, continues to act longer than a ventricle. But we find that the right auricle continues its contractions longer than the left, and the right ventricle than the left, and the reason of this difference is the object of the inquiry. Haller supposed that the motion of the heart was maintained for a longer period, because the natural stimulus which excites the motion of its cavities was present in them to prevent their quiescence. The heart, however, being a muscle, must be subjected to the general laws of muscular fibre. The muscle in life is fatigued by exertion, and after the ligature of an artery, or when the circulation of the blood has ceased, stimuli weaken the remaining force of the contractile power, which expires earlier in pro-

* El. Phys. p. 481, Vol. i.
† Dict. de Med. p. 75. Asphyxie.
‡ El. Phys. Tom. i. p. 423, 24, 25, 26.

portion as the iteration of the stimulus is more rapid, and as its power is greater. When the supply of blood to the coronary arteries has ceased, each successive application of stimuli must tend therefore to weaken the power of the heart's contraction. The deduction therefore from the following celebrated experiment of Haller must be different from that which he maintained. "I* divided the *venæ cavæ*, and emptied the right auricle and ventricle, afterwards tying the veins. I opened also the pulmonary artery by an ample wound, that the right ventricle might more easily discharge its blood, so that the right auricle and ventricle evacuated their contents; on the other hand, I left the pulmonary veins free, but placed a ligature on the aorta, so that the left auricle and ventricle received blood, but could not expel it. The left auricle and ventricle always continued acting longer than their corresponding cavities, even to the fourth hour. The right auricle was in perpetual quiescence. The right ventricle contracted either imperfectly, languidly, or a shorter time, when it was not altogether immotile, or its quiescence was perfect, as often as the experiment had so succeeded, that the cavities were entirely evacuated.

From this experiment Haller infers, that the presence of the blood in the cavities of the heart maintains by its constant stimulus the contractility of the fibre. But the left auricle always contains a quantity of blood in common death, sufficient, in the language of this hypothesis, to act as a stimulus in maintaining its contractility; yet it always expires earlier than that of the right auricle.

The congestion of the venous blood in the muscular fibre maintains, during a certain period after the supply of blood has ceased, the contractile power of muscle. The heart, in the death of the brain and lungs, is similarly situated with a muscle whose artery is tied. Blood for a certain time is supplied from the pulmonary veins, and during a certain time its contractions continue as strong as they usually are. As this blood diminishes in quantity, the supply to the coronary arteries becomes less, and the contractions of the heart are impaired. After, however, all supply to the arteries has ceased, the heart continues to contract; but it rapidly becomes feebler, as it now depends for the maintenance of its contractility solely on the blood contained in its fibre. So far the heart obeys the law of muscular fibre in the intimate connexion of this phenomenon with the supply of blood. If then, by any means, the egress of blood from its veins were obstructed, this must tend to support its contractility in this state.

Vieussens first, and afterwards Thebesius, Lancisi, Lieutaud, and many other later authors, have described veins of moderate size which enter into the cavities of the right venous sinus and auricle, especially. Haller† confirms their testimony, and describes one small vein whose mouth is generally discovered near the *fossa ovalis*, which returns blood from the right auricle and its sinus. Other similar terminations of conspicuous veins are found in the right sinus and auricle, and, according to Vieussens, even in the *vena cava*. Afterwards in a similar way he describes the venous terminations in the left auricle, its sinus, even in the pulmonary vein. Supported by the same authorities, Vieussens, Thebesius, Rochet, Verheyen, Lancisi, Kawe Boerhaave, &c. other smaller veins have been discovered opening into all the cavities of the heart, and into the sinuses of the *venæ cavæ* and pulmonary veins, with oblique mouths which are protected by valves. Haller informs us that if the tube of an injecting syringe be introduced into any vein of the heart, and all the mouths of the smaller veins that can be discovered opening into the cavities be tied, any coloured liquid or mercury may be injected easily, and will be observed to exude through the oblique terminations of the veins, in the auricles, sinuses and ventricles, but chiefly in the *septum cordis*, and in the right cavities. The *arteria profunda* of the *septum cordis* has no *vena socia*, and it is probable that some other way has been prepared by nature by which the blood of this artery may return to the general circulation; and Haller insists upon the necessity of its return to the cavities, by veins similar to those described. The deep-seated veins of the muscular fibres of the heart must, it is evident, have more direct communication with its cavities than the superficial, since, in passing through an interlaced tissue alternately contracted and relaxed, their circulation would be nearly obstructed, and the functions of that part of the tissue would suffer in proportion. In the experiment of Haller, quoted above, the permanence of contractility was transferred from the right to the left cavities, by emptying the former, and producing a congestion of blood in the latter. This congestion, which maintained the contractile power of the left cavities of the heart, must have impeded the return of blood by the small veins which enter them, and produced in the fibre that venous turgescence which, when the supply of blood is obstructed, supports contractility. In the cessation of the heart's action from that of the brain or lung, the left ventricle is found almost empty, and its contractility first expires; the right ventricle, which must be contrasted with it, is gorged, and its contractions continue a much longer period. When, however, their state is changed, and the left is gorged and the right empty, the phenomena are reversed. The left auricle also in this state contains a considerable quantity of blood, but the right sustains the whole pressure of the venous and capillary system, and its contractility is most permanent; when the circumstances are reversed, by emptying the right auricle, and maintaining a congestion of the left, the contractile power of the right expires first. Nysten also observed, that the contractility of the

* 492, El. Phys. Vol. i.
† El. Phys. Vol. i. p. 380.

pulmonary cavities was greatly impaired by injections of air into the veins; if the injections were excessive the phenomenon very rapidly ceased. A distention with air, or a spumous fluid, must operate not merely by preventing any congestion of the internal veins, and allowing a free escape of blood contained in the fibre, but, as in paralysis of the bladder from a similar cause, by preventing a supply of blood to its fibre. Smaller injections of air, which are not so soon fatal to the contractility of the pulmonary heart, must act simply in the former way.

The preceding arguments led to the following experiments.

The left auricle generally contracts longer than the right ventricle, according to Nysten. Has this any connexion with the blood contained in its cavity? To determine this point the following experiment was performed.

Exp. 15.—The chest of a rabbit was opened, and in a minute and a half from the commencement, the lungs had been tied at their base, the heart was contracting rapidly and vigorously. At the fifth minute its contractions occurred irregularly and slowly. At the eighth they were eighty-eight. Tenth—left ventricle much diminished; right gorged; contractions feeble. Twelfth—left auricle has ceased; contractions twenty-four. Fifteenth—contractions twenty; extremely feeble. Eighteenth—left ventricle immotile. Twenty-fifth—fourteen contractions of the right side. In thirty-five minutes the ventricle and auricle were also immotile to common stimuli. The right side was gorged, the left empty.

Exp. 16.—In a full-grown rabbit the trachea was tied, and in two minutes the chest had been opened, the lungs tied at their base, and the *venæ cavæ* divided at the distance of one-fourth of an inch from the right auricle. The auricle was evacuated; but as no pressure was made on the ventricle, and the pulmonary circulation was arrested, it remained distended. At the sixth minute the auricles were flaccid—their cavities appeared empty—their contraction had gradually become feebler, and less frequent; at the end of eight minutes they were immotile: the *sinus venosus* of the right auricle contracted, however, a somewhat longer period. The left ventricle gradually diminished in size; its contractions became feebler and less frequent; and at the end of eighteen minutes, when it appeared to have expelled all its blood, it became immotile to common stimuli. The right ventricle contracted vigorously at the end of half an hour, and continued longer. On examination, all the cavities, except the right ventricle, contained no more blood than was sufficient to moisten their parietes; but the right ventricle was distended.

Exp. 17.—The left side of the chest of a rabbit was opened, the pericardium cut, and a ligature having been passed round the aorta and pulmonary artery at their origin, an interval was allowed to elapse, during which the animal breathed well, though rapidly, with the right lung. The ligature was then tied close to the root of the arteries. Respiration proceeded well with the right lung, and continued about a minute and a half, when struggles and violent convulsive gasping ensued, and the animal died exactly as in asphyxia. The struggles had ceased in three minutes and a half. The trachea was tied when all motion had ceased several minutes. The right cavity of the pleura was then opened. The mediastinum was discovered perfect; but in the interval which elapsed ere the trachea was tied, some air had permeated through it into the right pleura, and the lung had in some degree collapsed. At the close of the experiment the pulmonary artery was found gorged with blood, which flowed from an incision in very great quantity. The aorta was nearly empty. The circulation had therefore been arrested in its full career, and the cavities of the heart must be distended with blood. The contractions of the ventricles continued synchronous, and they both contracted the last time at the thirty-fifth minute. The auricles contracted one hour and thirty-five minutes synchronously. The right then contracted most frequently. In one hour and forty-two minutes the left ceased to contract spontaneously, though, doubtless, it was contractile to stimuli. The right auricle contracted spontaneously two hours and ten minutes, and was then contractile. The ventricles were equally distended with blood, and ceased contracting at the same time. The right auricle was more congested than the left, and continued longest contractile, sustaining, as usual, the pressure of the whole venous and capillary system.—Present, Dr. N.

The result of these experiments is perfectly consonant with the idea, that the contractile power of the parts is supported, through a comparatively longer period, from the repletion of their cavities, and consequent congestion of their fibres with venous blood. This repletion of the right auricle, and of its venous sinus in death, from the cessation of the functions of the brain or lungs, must be more considerable than that of any other muscle of the body. The blood, which by the last contraction of the ventricle is propelled into the arteries, is by them conveyed to the capillaries in the various tissues of the body. The organic motions of these tissues continue for some time, the blood still moves onwards, and is impelled with a certain force from their actions into the general venous system. The veins are everywhere found distended, because the progress is obstructed by the lungs, in which respiration has ceased. The pressure of this power must be divided between the terminations of the large veins in venous radiculæ in all the system, and their opposite terminations in the heart. The power, therefore, will be greater in the auricle than in any other portion of the body; and if congestion support the muscular power, that of the auricle (as experiment proves it in these circumstances to happen) ought to survive longer than any other.

In the following experiment, which is in other respects a repetition of that of Haller, the venous congestion was prevented from af-

fecting the right cavities of the heart, and the result was consonant with the previous reasoning.

Exp. 18.—The chest of a rabbit was opened, the *venæ cavæ* tied, and then divided nearer the heart than the ligatures. The heart contracted vividly for some time, then gradually weakened. In ten minutes spontaneous contractions seemed to have ceased. It continued contractile without irritation to the thirteenth minute. The right ventricle and auricle were immotile to the stimulus of the galvanic battery, at the fifteenth minute flaccid and empty. The stimuli were constantly applied, to ascertain the motive power of the different parts. At the twenty-fourth minute no contractions could be obtained from the left ventricle. At the twenty-eighth, the left *sinus venosus* was observed to contain a considerable quantity of blood, which had gradually accumulated from the large vessels of the lungs. The blood was evacuated by an incision, and speedily all contractility ceased. The voluntary muscles, however, continued vividly contractile at the end of one hour, when the experiment was interrupted.—Present, Dr. N.

These experiments are consonant with the idea, that the motive power of the right heart, in all cases in which it has been observed to continue longer than that of the muscles, has been preserved by the greater comparative supply of blood to its fibre, from the congestion of its cavities, and consequent repletion of its small veins.

It would be difficult to determine whether much of this effect may not be owing to imbibition, by the open mouths of the small veins, from the blood contained in the cavities of the heart, thus supplying, by their peculiar action, the muscular tissue with the blood necessary to its contraction. Some experiments which I have performed seem to favour this idea. They have not, however, been so frequently repeated as to deserve mention here.

From these experiments, we may at least conclude, that the heart so far obeys the laws common to muscle, that an analogy, drawn from the influence of blood on the tissue of the muscles of voluntary motion, would be strictly applicable to the laws of the contractility of this organ. The blood of asphyxia, so far, therefore, from having any positively noxious influence on the muscles of voluntary motion, or on the heart, is capable of supporting their motive power for a certain period. By what arguments, therefore, is the celebrated hypothesis of Bichat supported?

Bichat commences his inquiries on this subject, by noticing the theory of Goodwyn, (p. 211.) To this he objects, 1st, That if the dark blood paralysed the left heart by its presence in the ventricle, the action of the heart ought to cease first, and that of the organs to succeed, which is contrary to the fact. 2d, If the trachea of any animal be obstructed, (p. 213,) any artery being divided, the blood which flows gradually assumes a darker colour, and at length becomes as dark as the venous. Notwithstanding this phenomenon, which is very conspicuous, the fluid continues still to jet forth, with an energy equal to that of the florid blood for some time. Therefore the heart acts vigorously with this blood in its cavity. 3d, The result of this experiment is the same, though the atmospheric air be in a great measure abstracted from the lung by means of a syringe. 4th, Venous blood injected into the left auricle and ventricle, by means of a syringe, does not weaken the contractions. He therefore inquires, (p. 217,) quelles sont donc les causes qui interrompent la circulation dans le cœur à sang rouge, et dans les artéres, lorsque le poumon y envoie du sang noir?" He concludes without any further argument or proof, (p. 217,) "I think that the dark blood acts upon the heart in the same way as on all the other structures, as we shall discover that it influences the brain, the voluntary muscles," (which I have shown to be incorrect,) "the membranes, &c. in a word, all the organs which it penetrates, that is by permeating their tissue, by enfeebling each particular fibre; so that I am well persuaded that if it were possible to propel by the coronary artery, dark blood, whilst the florid circulates as usual, in the aortic auricle and ventricle, the circulation would be almost as soon interrupted as when the blood penetrates the tissue of the heart by the coronary arteries, only after having passed the two cavities of arterial blood."

That the genius of Bichat erred in this conclusion is perhaps sufficiently demonstrated. We have before seen in experiment 3, &c., that the action of the left ventricle continues long enough to expel all the blood from its cavity, and that it contracts long after blood has ceased to flow from the coronary veins. Its contractions, therefore, survive the period when it is possible that the coronary arteries can receive the asphyxial blood. The theory of Bichat supposed the noxious qualities of this blood to be fatal to the heart, and that, from this cause, the arterial circulation ceased; but the heart in asphyxia continues to contract vividly when no blood flows from a divided artery. The circulation is arrested by the suspension of respiration, and the consequent cessation of the functions of the lung, at the moment when Bichat supposed the circulation of dark blood to exercise a fatal influence on the heart, which, notwithstanding, continues its contractions vividly for a considerably longer period. But, we have before shown, that the contractions of the heart become less frequent after the supply of blood to the coronary arteries has ceased, in the same degree as the motive power of voluntary muscles is affected after an artery is tied. Other experiments have shown that this blood is favourable to the contractility of the voluntary muscles, and that its presence in the cavities of the heart maintains, during a certain period, the motive power of its fibres. Similar evidences may be obtained, though somewhat more obscurely, from the experiments of Bichat. In opposing the theory of Goodwyn, (p. 216,) he says,

"Enfin il m'est egalement arrivé rétablir les contractions du cœur anéanties dans diverses morts violentes par le contact du sang noir injecté dans le ventricule et l'oreillette à sang rouge avec une seringue adaptée à l'une des veines pulmonaires," evidently by giving a new supply to the coronary arteries. In page 217, the comparison of two opposed passages appears unfavourable to his opinions. He asks, "Quelles sont donc les causes pui *interrompent la circulation dans le cœur à sang rouge et dans les artéres lorsque le poumon y envoie du sang noir?*" Now, in page 227, he says, "Toujours par consequent c'est dans le poumon que la circulation trouve son principal obstacle." The circulation, therefore, is not arrested in the heart; and since the obstruction is thus said to be in the lungs, the supply of dark blood to the heart cannot ensue, and one passage contradicts the other. Yet he concludes in the answer to the question quoted above, that the noxious qualities of this dark blood destroy the motive power of the heart.

An experiment is also detailed in page 217, which is irreconcilable with the theory. When the dark blood has flowed from a divided artery some time in asphyxia, its impetus gradually becomes weaker, and at length ceases almost entirely; if then the stop-cock obstructing the trachea be opened, and respiration be allowed "il se retablit *bientot* avec *force*." If in this experiment the circulation had ceased from the destruction of the motive power of the heart, on account of the noxious influence of the dark blood upon its fibres, the renewed circulation of the lungs on the admission of oxygen could have no *sudden* influence on the fibre whose contractility had been destroyed by a noxious fluid, which had gradually permeated and pervaded its tissue, yet the contractions are described to have been *soon re-established with energy*. This, however, may be readily conceived, since we have seen, that the contractions of the heart cease from the want of a due supply of blood, on account of the obstruction of the pulmonary circulation. When, therefore, as in this experiment, the motive power has almost ceased, if respiration be restored, the circulation through the lungs will be re-established, the supply of blood to the heart recommence, its fibre renew its contractions with vigour. The same arguments apply to the celebrated experiment by Hooke, and to the usual phenomena of resuscitation by the inflation of the lungs.

In the application of the same doctrine to explain the interruption of function in the other organs of the body, Bichat has also drawn similar conclusions from the same premises. Examining his argument in detail, we shall discover that it rests entirely on the supposed influence of the dark blood on the voluntary muscles, and the supposition, that this blood continues to circulate a considerable period, and penetrates all the organs of the body, (p. 265.) We have observed, however, that the arterial circulation ceases in a very short time after respiration has been suspended. Bichat principally supports his opinion by the fact, that the tissues of the body become more livid than in ordinary death, and that dark blood oozes from them when they are divided.

Blood darker than the arterial certainly permeates the lungs, and is transmitted from the left ventricle during a short period to the various organs of the body. But the time during which this blood circulates when the respiration has been suddenly suspended is so short, that we cannot suppose that it has any great influence in producing this colour, especially as the phenomenon is capable of an explication more consonant with the facts detailed in this inquiry. In the variety of asphyxia often observed in diseases of the lungs, especially when complicated with the extreme debility of fever, when the functions of the lungs are gradually impeded, the colour of the blood is changed in all the tissues of the body; but as death does not ensue, until, as in common asphyxia, the circulation has been arrested from cessation of the functions of the lung, this blood has no sudden noxious influence on the various tissues. Hunter, however, discovered, that the colour of the blood in contact with any living tissue, gradually becomes darker, until it has assumed the venous colour. After death, on what lesion soever it may depend, we never discover bright arterial blood in any tissue of the body. The state of the vascular system differs also in asphyxia from that observed in other kinds of death, as the blood is chiefly accumulated in the veins, and the radiculæ and minute vessels terminating in them. That the tissues therefore should assume a somewhat livid colour, is not so peculiar that it must be ascribed to an universal morbid change in the blood, which cannot happen when the respiration is suddenly interrupted; but it must be attributed to the strange influence of tissue upon blood, by which its qualities assume in a greater degree the venous characters, when surrounded by it, and to the peculiar state of congestion of the venous system, rendering this colour more obvious to the eye.

Bichat proceeds (p. 275,) to attempt to prove "*that the dark blood is incapable of supporting the activity* and the life of the organs which it penetrates, when the functions of the lung have ceased." The arterial blood, he remarks, is peculiarly adapted as a vital stimulus to the various organs of the body; (p. 275–276,) and (p. 277,) he speculates concerning the method by which it supports the various organic motions. He then proposes (p. 278,) to examine how the contact of the dark blood with the structures occasions their death. The action of all the organs of what Bichat has termed animal life, depends on the brain, and, supporting his opinion by his experiments concerning the influence of the dark blood on the brain, he supposes that it is through this medium fatal to them. "But when," he adds, "this fluid circulates in the general system, when all the organs are subjected to its influence, two other causes are added to this. 1. The nerves which are pene-

trated by it are no longer capable of establishing communications between the brain and the senses on the one hand, and on the other, between this viscus, and the locomotive and vocal organs. 2. The contact of the dark blood with the organs themselves, destroys their action." For he asserts, if the dark blood be injected into the crural artery of an animal, paralysis supervenes. He repeats these opinions in page 280. But its influence on the nerves rests simply on the opinion of Bichat, unsupported by experiment, and we have shown that it has no noxious influence on the muscle. Pursuing the argument, he remarks the difficulty of proving satisfactorily "that the secretions, exhalation, and nutrition, cannot obtain from the dark blood the materials necessary to support them, for this blood does not circulate in the arteries, during a period sufficiently long, to enable us to make experiments on these functions. He then remarks, that, after respiration had been suspended, he had never witnessed the flow of semen from the *vas deferens*, or of urine from the ureter, but he allows that no consequence can be adduced from observations of this nature, made during the short sufferings of the animal. "It is therefore," he continues, "principally from the analogy of that which happens in other organs, that we determine that the functions of secretion, exhalation, and nutrition, cease when the dark blood penetrates their structures." But upon what analogy? The only positive experiments, adduced in support of these opinions, concern the effect of the dark blood on the muscle and the brain. The first we have shown to be erroneous; and concerning the second we can only at present remark, that, allowing the experiment to be correct, the fact that the dark blood supports and revives the contractility of muscle, demonstrates that no analogy can be drawn between the brain and other organs. Analogy cannot therefore be adduced in aid of this opinion.

The argument of Bichat here ceases; and it is needless to follow him through the subsequent pages, in which he attempts to trace a vague accordance between his opinions and some of the obscure and even doubtful phenomena of asphyxia.

To these opinions it must further be objected, that in young animals, as is proved by the experiments of Buffon and Edwards, and in animals of cold blood, life, with all its functions and phenomena, is supported for a considerable period by the presence of the dark blood; and as the hypothesis of Bichat is supported by no valid experiment or argument, we are inclined to the opinion, that, though the dark blood is doubtless less favourable to the action of the organs generally, than the arterial, yet its presence exerts no positively noxious influence upon them, but is even capable of supporting their actions for a certain period. The evidence of more decided experiment is desirable to confirm this opinion, as far as it respects the organic motions generally. Concerning muscle, the experiments detailed in this inquiry are positive; and the blood being necessary to secretion and nutrition, it is a natural consequence, that, when the circulation is arrested, as in asphyxia, these functions should cease.

I embrace this opportunity of expressing my great obligation to my enterprising colleagues, Drs. Nesbitt and Bruce, for their very valuable assistance in some experiments, and for their watchful scrutiny during the progress of almost all.

From the London Medical and Physical Journal.

VACCINATION IN AFRICA.

On the departure of Lieutenant James Holman, R. N. the celebrated blind traveller, for Africa, I begged the favour of him to procure for me some authentic information respecting the present state of small pox and vaccination in the Negro country, and I supplied him with a few queries calculated to direct his inquiries. He has just transmitted to me the accompanying communication from W. Ferguson, Esq. surgeon of the Royal African Colonial Corps, which appears to me to possess sufficient interest to merit a place in the pages of your excellent Journal.

I am your obedient servant,

GEORGE GREGORY.

London, December 19, 1828.

Replies to Queries on Vaccination and Small Pox. By W. Ferguson, Surgeon Roy. Af. C. C.

1st. Is vaccination generally practised among the infant negro population?

2d. Whence do they derive their stock of lymph?

3d. What is the degree of confidence placed in it?

Vaccination is not at all practised among the negro population by native vaccinators; it is, however, practised among certain branches of the negro population by European surgeons. The negro population of Sierra Leone consists of Nova Scotian and Macroon settlers, liberated Africans, and several of the aboriginal African tribes, such as Limmaners, Mandingoes, Soosoos, Sherbros, &c. &c. &c. The three first mentioned of these branches of the negro population, having greater intercourse with Europeans, are better acquainted with European customs, and have, of course, imbibed more of European notions and prejudices on such subjects as the one now under consideration, than the aboriginal inhabitants of this part of Africa: vaccination therefore is, and has been, practised among them to a considerable extent; the stock of lymph being derived from, and kept up by frequent renewal from England. That their confidence in it as a measure preventive of small pox is great, I judge from the anxiety which they show, and the eagerness which they manifest to have their children vaccinated, when small pox is raging round them; while, under ordinary circumstances, and when their fears have

been lulled by the absence of this fatal epidemic, (an absence which they well know is probably but temporary,) they exhibit such an unaccountable apathy regarding vaccination, that a stranger might well suppose they had no faith in it at all as a prophylactic measure. Notwithstanding this, I believe they have great confidence in it, although, from circumstances to which I shall presently allude, that confidence has, I believe, declined considerably.

4th. How soon does the areola arrive at its greatest height in these countries?

The areola surrounding the vaccine vesicle is, I think, at its greatest height about the eleventh or twelfth day after vaccination, if the lymph used has been genuine.

5th. Does small pox prevail there?

6th. Does small pox prevail there after vaccination?

Small pox prevails occasionally, and there are instances of its having occurred even in a confluent form after vaccination. One genuine instance of this kind came under my notice in the year 1824, in the person of a liberated African girl, of about sixteen years of age. Vaccination had been performed in this case by the late Dr. Nicol, deputy inspector of hospitals, and was considered satisfactory. The case proved confluent. The secondary fever was accompanied by severe diarrhœa, which carried off the patient about the thirteenth day. Another well authenticated instance of the same fact occurred in the early part of the present year, in the family of a respectable Nova Scotian settler. Other cases of a similar nature have been reported by the inhabitants; but I do not consider that in these cases the proofs of a pure previous vaccine disease have been satisfactorily established. When vaccination has been carried on for some time from the same stock of lymph, the disease is apt to degenerate and become spurious; from which cause we require a frequent renewal of lymph from England, in order to keep it in continuous and successful operation. The spurious disease, on the fifth day, generally shows itself in the form of a small globated papula; on the eighth day, it presents sometimes an ash-coloured pustule, containing purulent matter; at other times, and less frequently, a brown-coloured scab, having a small quantity of purulent matter under it, capable of producing, by inoculation, a disease similar to itself. The great prevalence of a disease among the negro population called *Craw Craw*, is considered as materially influencing that change in the properties of the pure vaccine lymph which has been just noticed. That apathy and indolence, of which I have already accused the negro population, leads them to consider the appearance of disease in the arm after vaccination, as the test of safety from small pox. Great as the difficulty sometimes is in getting them to bring forward their children for vaccination, it is still greater to procure the necessary examinations in its progress and maturation. The mere appearance of disease in the arm is supposed to carry along with it immunity from small pox; and, on the occurrence of the epidemic at an after period, it may be easily foreseen how wretchedly and how fatally this confidence in the spurious disease may be misplaced. I, therefore, do not consider that, in all the cases spoken of among the inhabitants as cases of small pox occurring after vaccination, there existed satisfactory proofs of the patient's having previously undergone the genuine vaccine disease; yet I am sorry to say that, from such occurrences as these, vaccination has rather lost ground in the opinion of the negro population.

7th. Is small pox an increasing malady?

Small pox is not an increasing malady: it is generally introduced here from the slave cargoes of vessels detained by the squadron, and sent here for adjudication. Were this source of its renewal removed, I am persuaded that small pox would, in the course of a few years, be almost unknown in this part of Africa.

8th. Can the vaccine virus be retained on points and glasses, so as to be fit for use?

The vaccine lymph, if taken on points, will not retain its power seven days in this country. This observation is established by repeated trials. If taken on glasses, I would not be disposed to depend on its activity when kept longer than fourteen or sixteen days, though I have known it sometimes to retain its original properties for four or five weeks. If preserved in glass bulbs hermetically sealed in the manner practised by the National Vaccine Institution, I have known its properties unimpaired after keeping for three months. Repeated trials have convinced me of the excellence of this mode of preserving the vaccine lymph, and I believe it to be the best and surest that has been yet devised, of transmitting the lymph from England to tropical countries: next to this method, I believe the crusts have proved most successful.

9th. Are there periodical vaccinations of large districts, or is each child vaccinated soon after its birth: if the latter, how soon?

The practice in these cases is, as long as the vaccine lymph continues to produce a genuine disease, to keep it up by the weekly vaccination of all comers. Children are rarely vaccinated under four weeks old, but there is no rule observed on this head.

10th. What sort of scars are usually left in the arms?

The scar bears the shape of the original vesicle, and is slightly depressed below the surface of the surrounding skin. The surface of the scar is marked by a number of small depressions of various shapes, corresponding, I believe, with the cells in the original vesicle.

11th. Is vaccination in hot countries attended with feverish symptoms? If it is, on what day do they begin?

Vaccination is sometimes in this country attended with feverish symptoms; but, in the most marked cases, so far as I have seen, these symptoms have been so slight as almost to escape common observation. I have not remarked on what day they begin.

12th. Is vaccination ever followed by any eruptions?

I have seen only one case of this: an eruption appeared on the sixth day after unsuccessful vaccination: it was diffused over the whole body, and is now in progress.

Sierra Leone, September 24, 1827.

N. B.—The case alluded to in the last of the above replies, was in the first instance a papular eruption, the base of each papula being surrounded by an inflamed ring. The eruption was thickest on the thorax and on the arms. In its progress the eruption became pustular, the pustules being in circumference about half the usual size of the vaccine vesicle. On the twelfth day, the crusts had dropped from some of the smaller pustules; and, by the seventeenth day, they had all dropped off, leaving a mark, but not in any manner pitted, and which I do not think promises to be permanent.

From the London Medical and Physical Journal.

OBSERVATIONS ON THE NATURE AND TREATMENT OF BERIBERI. By William Hamilton, Esq. Royal Navy.

By the different authors who have touched upon the subject, from the days of Bontius (who first described the disease, and gave it a place in medical nomenclature,) down to those of Dr. Christie, and from his time to the present, Beriberi has been considered as a disease of debility, in the cure of which any thing approaching to a depletory mode of treatment, has been most religiously avoided. Finding, from a medical friend lately returned from India, that little or no deviation from the accustomed practice so long pursued in such cases had taken place at the time he quitted that country, in June, 1825,—a short time previously to which beriberi had proved more than usually fatal, particularly in the northern division of the Madras settlement,—I have, at the request of the individual alluded to, been induced to communicate, through your Journal, the following observations on the nature and treatment of this complaint, as tending to favour the propriety of a very opposite mode of practice to that so generally had recourse to for its cure. My object being chiefly to confine myself to facts, and by a simple statement of such lead the attention of others to the subject, I shall, in the course of my remarks, avoid, in as far as possible, touching upon such points as would naturally involve either hypothesis or theory.

This very singular endemic (occurring in particular parts of the East Indies, and which, I believe, has not been described as having existed in any other quarter of the world,) appears to be principally, I may say almost entirely, confined to the Island of Ceylon, the Malabar coast, and that tract of country reaching from Madras as far north as Ganjam, and in no part extending inland more than forty miles, forming what is called the northern division of the Madras settlement. It is most prevalent during the decline of one monsoon and setting-in of the other, when the atmosphere is completely loaded with cold, raw, damp vapours, and the vicissitudes of temperature are greater than at any other period of the year; and though in a less degree does a residence in the neighbourhood of the coast seem essential for its production, than a stay for some months on a station where it prevails, yet the instances are comparatively rare where it has been found to occur at a distance from the sea exceeding sixty or seventy miles.

Individuals of very different constitutions and habits of body seem liable to be affected by it; but such as lead a sedentary and debauched life, and who are much exposed to vicissitudes of weather and sudden changes of temperature, are unquestionably those most subject to its attacks; and an individual once having suffered from it, appears more liable to a future attack than one who had never been the subject of it.

I have only had an opportunity of seeing the disease under two forms, viz. that in which the symptoms were at first mild, and gradually increased in severity; and that in which the symptoms were even from the first rather urgent, increased more rapidly, and, unless speedily relieved, soon led to the most alarming appearances, and finally proved fatal.—There is another variety mentioned by Dr. Christie, which that author considers equally fatal, and in which "there was not any swelling observable externally, but the patient, with the other symptoms, had evidently the bloated leucophlegmatic face of a dropsical person." Dr. Rogers, of the Hon. East India Company's Madras establishment, likewise mentions this variety of the complaint, in a Thesis written by him, and printed at Edinburgh in the year 1808. "Hydrops asthmaticus," says he, "tumore nullo externo comitante, nobis ante oculos interdum versatus fuit; his autem in exemplis ægro exitium semper attulit; vultusque et tumidus et leucophlegmaticus, hydrope laborantis sane proprius ægrotanti fuit." This form of the complaint I have never seen. The first case that fell under my care was one in which the disease appeared under its milder form. There was from the commencement slight dyspnœa, with stiffness of the lower extremities; pulse quick and sharp; skin dry and rough. Supposing it only a slight feverish attack, (the individual having been exposed the preceding night to the damp and cold winds which prevail during the change of monsoon,) I prescribed a solution of emetic tartar, to be given in small repeated doses, for the purpose of acting on the stomach, bowels, and skin, and directed that he should be kept warm; having very little doubt that, by next morning, I should find my patient much relieved. To my great mortification, however, I found all the symptoms much aggravated, particularly the stiffness he complained of in his legs and thighs, which now

amounted to an almost complete paralysis. From this time there was no mistaking the nature of the complaint, and, though I strictly followed the plan of treatment recommended by Dr. Christie, and by him found so successful, the poor fellow died on the evening of the tenth day from the commencement of the attack, having for some days previously laboured under all the symptoms generally present in beriberi. This body, from particular circumstances, I was prevented examining.

In the second case which I had an opportunity of attending, the disease, from the time that I first saw it, appeared under its more aggravated form. The symptoms were as follows:—Great debility, with difficulty of respiration; a sense of weight and oppression at the lower end of the sternum; and an almost paralytic state of the thighs and legs, which, soon after the commencement of the attack, became œdematous, as did also the face, and indeed the greater part of the body; with a general sensation of coldness over its surface; pulse 120, small, feeble, and intermitting. All these symptoms went on increasing until the death of the patient, which took place within forty-eight hours from the time he was first attacked. A short time previously to his death, he was seized with a violent fit of vomiting, spasms of the abdominal muscles, and increased dyspnœa, which carried him off.

Though the plan of treatment recommended by Dr. Christie had in the first case proved unsuccessful, such was my confidence in that author, from the very decided manner in which he speaks of his success, that I was a second time induced to follow his footsteps in the treatment of this complaint; but, I am sorry to say, as unsuccessfully as before. I now determined to examine the body, and, if possible, discover some indication or other by which I might be guided in my future treatment of the complaint, should a case of the kind again occur to me. I shall here state the particulars of this examination, together with the mode of treatment I was afterwards led to adopt, by which I succeeded in completely curing my next three patients; in two of whom the symptoms were, in the first instance, still more alarming than in either of the cases which terminated fatally. Leaving the country soon afterwards, I was deprived of an opportunity of giving it a more extensive trial.

I carefully examined the contents of the cranium, thorax, and abdomen. Upon removing the scull-cap, I found upwards of an ounce of serum effused between the dura mater and tunica arachnoidea; and in two or three different places there appeared dark red-coloured patches, one of which was exceedingly vascular, and extended into the substance of the brain, to the depth of from a quarter to half an inch. There was likewise found considerable effusion in all of the ventricles except the fifth, or that cavity formed by the separation of the laminæ of the septum lucidum. In the base of the cranium, upon the brain being removed, there appeared upwards of four ounces of fluid tinged with blood. The lungs were very much loaded with dark-coloured blood; and in both cavities of the thorax there was found extensive effusion. The heart was of a pretty healthy appearance; nor did the pericardium seem to contain a much greater quantity of fluid than that generally found in it; both on its external surface, however, and likewise internally, there existed very evident marks of inflammation. The diaphragm, particularly towards the right side, appeared considerably inflamed. The stomach was of a healthy appearance, and contained about six ounces of a dark brown-coloured liquid. The liver was very evidently larger than natural, and appeared even still more loaded than the lungs: on cutting through its substance, the blood, from different points, trickled out almost in a continued stream; and indeed all, even the most minute vessels, seemed completely gorged; as were likewise those of the mesentery and pancreas. In several places on the surface of the intestines there appeared a sort of efflorescence, but, upon the whole, they presented nothing very remarkable. From three to four pounds of fluid were found in the cavity of the abdomen; and in the cellular texture, almost all over the body, there existed very extensive effusion. On examining the spinal marrow, there was found to exist the same evident marks of congestion as in the liver, lungs, &c. almost along the whole of its course, though that more particularly in the dorsal region. No other deviation from the natural healthy appearance of the parts was found to exist.

Dr. Christie mentions, that in many of the subjects he examined who had fallen victims to this disease, there was a remarkable obesity, even after a long continuance of it, and the use of mercury, antimony, and other powerful medicines. This I found to be the case in the individual whose body I examined; but he was naturally of a full habit of body, and in him the disease had not existed long.

Having fully satisfied myself, from the post-mortem appearances, that the dropsical affection and other symptoms in the case of the individual whose body I had an opportunity of examining, (and I have little doubt in every other where the disease occurs,) arose from obstructed circulation, in consequence of congestion in the internal organs; and that beriberi consequently could not be considered a mere disease of debility, as described by the celebrated Bontius, and more recently by Dr. Christie, Mr. Hunter, Mr. Colhoun, and others, but a disease in the treatment of which depletion might be had recourse to with the greatest possible advantage, I fully determined, should an opportunity again present itself, (regardless of the apparent debility of the patient on the one hand, or of the doctrines of the humoral pathology on the other,) to try the effects of blood-letting, for the purpose of assisting other means in exciting reaction, determining towards the surface, and restoring the balance of circulation. For this end, in the following case, thirty ounces of blood were, upon my first seeing the patient, taken from

the arm *pleno rivo;* which, from the immediate relief it afforded, I was induced to repeat: and accordingly, about twelve hours from the first bleeding, the dyspnœa and other symptoms, though much relieved, still continuing troublesome, twenty-five ounces more were drawn off in a full stream, which was followed by the same evident good effects as on the former occasion. I felt inclined even a third time to repeat the bleeding, and certainly would, had the individual been of a full habit of body, or had the disease occurred to me in a climate where debility and general relaxation were less liable to follow free depletion, and where a practitioner might, with comparative safety, carry the use of a lancet to a greater height than he would be warranted doing in a climate such as that of India.

Having resolved not to push venesection further, I had immediate recourse to mercury, upon which I now determined principally to rely in the cure of the disease, having every hope of saving my patient, provided I could succeed in bringing him speedily and effectually under its influence. Its well known effects as a great, universal, and permanent vascular stimulus, as an equaliser of the circulation, and as taking off determination from particular parts,—its diuretic effects when combined with diuretics, and diaphoretic when combined with diaphoretics, render it a medicine peculiarly well adapted for the cure of beriberi.

Soon after the second bleeding, I directed twenty grains of calomel, with thirty drops of laudanum, to be given, and had the patient laid upon the frame of a common sea-cot, having an open ratan bottom, under each end of which was placed a block of wood, for the purpose of raising it a certain distance from the ground. A blanket, having a hole cut in it sufficiently large for allowing the head to protrude, was now thrown over all, and brought close down to the ground at the ends on each side. Two crucibles, containing ignited charcoal, were then placed under it; by means of which the whole surface of the body was freely exposed to the fumes of the hydrargyri oxydum cinerium, some of which was from time to time thrown into the crucibles. This I continued for upwards of half an hour, when, the patient feeling faint, the crucibles were removed, and the body enveloped with the blanket which covered it during the fumigation.

An hour and ten minutes having elapsed from the time the calomel was given, the dose was now repeated, with the same quantity of laudanum as before: soon after which he fell into a sound sleep, and continued so for upwards of three hours. Upon his waking, I found him in a state of copious perspiration, the pulse increased in strength, and the dyspnœa not near so troublesome. I now again repeated the calomel, with six grains of gamboge, for the purpose of acting on his bowels, and omitted the laudanum; had also the crucibles replaced, and the body again exposed to the fumes of the hydrargyri oxydum cinerium; which, from this time, together with scruple doses of calomel, and friction over the surface of the abdomen and thighs with the unguentum hydrargyri fortius and liquor ammoniæ, was repeated from every three to four hours until ptyalism was fully established, (which, notwithstanding the very active means had recourse to, required from forty to forty-eight hours to effect;) after which every unfavourable symptom began speedily to disappear, and the patient's principal complaint was the soreness of his mouth.

The particulars of this case, which are nearly similar to that of two others which fell under my care, and in which the same mode of treatment proved equally successful, I beg leave to subjoin, as copied from my notes taken at the time.

I may here add that, in one of the cases, there was from the first violent vomiting, which soon, however, yielded to large and repeated doses of calomel and laudanum, together with the application of strong mustard sinapisms, at from 150° to 160° of Fahrenheit, to the region of the stomach; which I have likewise found singularly successful in speedily allaying the violent gastric irritability, in cases of bilious remittent fever and cholera, where the calomel and laudanum alone had completely failed of success. The individual being of a rather full habit of body, and the pulse, after the first and second bleedings, continuing strong, blood-letting was in this case a third time had recourse to; the patient losing in all upwards of sixty-five ounces of blood within the space of thirty hours, and that with the happiest effects, notwithstanding that the dropsical and other symptoms had existed for nearly two days previously to my seeing him, and that the anasarcous swelling, in the interval between the bleedings, had very considerably increased.

The above observations were chiefly written during the progress of a voyage from the East Indies to England, in the year 1822; since which time I have had an opportunity of perusing Mr. Marshall's Notes on the Medical Topography of the Interior of Ceylon, in the which mention is made of two or three cases of this disease, where the dyspnœa was very troublesome, and for the relief of which blood letting was had recourse to with immediate advantage. Mr. M. however adds, that "a more extended clinical experience is still necessary before a due estimate can be made of the effects of the depletory means of cure." I have much pleasure in being able to contribute my mite to the testimony of Mr. Marshall in favour of a mode of treatment, which I have no hesitation in saying, whoever would successfully combat this "hydra disease," would do well to adopt.

In addition to the cases mentioned by Mr. Marshall, I am happy at having it in my power to notice two others, with the history of which I have been recently favoured by my friend, Dr. C. Rogers, of Edinburgh, in the treatment of which blood-letting was had recourse to, as in Mr. Marshall's cases, for the purpose of

relieving dyspnœa, and was speedily followed by a striking alleviation of all the symptoms. These cases occurred so late as the year 1823.

This evidence in favour of the depletory mode of cure I consider strong, and the more particularly so coming from such authority as that of Dr. Rogers, who for some time practised along with Dr. Christie in the Island of Ceylon, and lately filled the situation of superintending surgeon in the northern division of the Madras settlement; a station where he had ample opportunities of seeing and treating the disease under its every form, and who not long since entertained very different views on the subject to those which he has lately been led to adopt. In allusion to blood-letting in the treatment of this disease, (as found in his Disputatio Inauguralis Medica quædam de Hydrope Asthmatico in Ceylonia, grassante Beriberia, dicto Complectence,) he makes use of the following words:—"Quin et, ad phlebotomiam tandem decursum fuit; vena autem pertusa, morbus cursum ejus funestum celerius absolvit."

Case.—November 20th, 1820, 10 A. M.—H. C., æt. thirty-two, of a rather spare habit of body, says that he has felt more or less indisposed for the last two days. Complained last night of very acute headach, with a sense of extreme debility and severe dyspnœa, (which last came on him suddenly,) of great numbness, and a disagreeable pricking pain in his thighs and legs, which were much swelled and œdematous; face and abdomen likewise considerably swelled; countenance extremely anxious; complained of feeling very cold; inclined much to vomit; pulse 120, weak and irregular; tongue furred; urine scanty and high coloured; bowels open; skin dry, and cooler than natural. Has lived for the greater part of the last twelve months on the Island of Ceylon. Was bled to the extent of thirty ounces, which afforded much, and almost immediate relief; had also four grains of calomel, with ten grains of jalap, given him, for the purpose of acting upon his bowels. This was, however, soon afterwards vomited; when thirty drops of tinct. opii were given, with a view to moderate the gastric irritability which existed, and procure sleep.

I visited him this morning at ten A. M.—Says that he has passed a very restless night. All the symptoms, though not so urgent as before the bleeding, still continue, particularly the headach and dyspnœa; pulse 116, stronger and rather more regular than at last visit. Blood taken last night of a buffy appearance. Mittantur mox pleno rivo sanguinis unciæ quinque viginti.—℞. Subm. hydrargyri ℈j.; tinct. opii gtt. iij.; pulv. scillæ gr. j. M. statim sum.

Six P. M.—Feels better: dyspnœa and headach much relieved by the bleeding. The calomel and laudanum twice repeated since morning, with the addition of six grains of gamboge to the last dose, for the purpose of acting on his bowels. Has had the fumes of the hyd. oxyd. ciner. twice applied to the surface of the body, which was each time followed by a general glow of heat and free perspiration; and, soon after the first application, completely removed that coldness of the extremities, and indeed of the whole body, from which he appeared to suffer much at the time I first saw him. Œdematous swelling now almost general over the whole surface of the body; pulse ninety-six, softer, and more regular; thirst urgent. Blood taken in the morning slightly buffy. Omittantur tinctura opii.—Repet. hydrag. submur. et pulv. scillæ tertia quâque horâ.—Suffit. quartâ quâque horâ.—℞. unguent. hyd. ℥ij.; aq. ammon. ℥j. M. infric. semi uncia de die.—℞. supertart. potassæ ℥j. infunde in aquæ ferventis unciis quindecem per semihoram et cola. Capiat uncias tres pro re nata.

21st.—Has had several copious watery stools since yesterday evening; slept badly; dyspnœa less troublesome; headach better; œdema of extremities slightly diminished; urine still scanty and very high coloured; great apparent debility; thirst incessant; pulse ninety-eight, and pretty full; perspires freely for some time after each fumigation; countenance bloated; tongue furred. Has taken twenty grains of calomel almost every three hours since yesterday morning; had the fumes of the hydrargyri oxydum cinerium regularly applied to the surface of the body, and the ung. hyd. fort. repeatedly rubbed in during the night, but as yet there is no appearance of ptyalism. Continuentur medicamenta ut heri præscripta.

Six P. M.—Dyspnœa very much relieved; anasarcous swelling of the abdomen considerably reduced, but the œdema of the lower extremities appears very little diminished; thirst still urgent. Drinks freely of the cream of tartar and water, which keeps his bowels open. Has made upwards of two pounds of urine during the day, not so high coloured as formerly; breath affected by the mercury. Diet, light soup and sago. Continuentur omnia.

22d.—Spits copiously; slept little during the night, but there is to-day a most striking alteration for the better: dyspnœa almost entirely gone; anasarcous swelling all over the body very perceptibly diminished; thirst less urgent. Has made nearly six pounds of urine since yesterday afternoon. At times perspires freely; pulse 102; tongue rather loaded; bowels loose. Says he feels much stronger than he has before done since the commencement of the attack; appetite pretty good. Diet, soup and sago. Omittantur omnia medicamenta.—Utatur gargarism ex aq. font. et nitrat. potassæ.

Six. P. M.—Complains chiefly of the soreness of his mouth; little or no difficulty of respiration. Quantity of urine since morning, eight pounds. Skin moist; pulse ninety, and pretty strong; no stool during the day. Had a little boiled fowl for dinner. ℞. Potassæ supertart. ℥ vj.; pulv. jalap. gr. x. M. fiat pulv. statim sumend.

23d.—Until about four A. M. rested well; since which time he has had frequent watery stools, from the cream of tartar and jalap. Saliva flowing freely; no return of dyspnœa;

œdema rapidly diminishing; appetite getting keen; still complains of thirst; pulse eighty-six; urine copious; skin dry. Diet; fowl, soup, and sago. Cont. garg.—Habeat decoctum hordei pro potu ordinario.—℞. Infus. gent. comp. ℥ij.; liquor ammon. acetat. ℥ss.; spirit. ætheris nit. ℥ij. M. fiat haust. ter in die sumend.—Habeat ter in die spirit vin. Holland. unciam ex aq.

Six P. M.—Continues doing well; has had three copious liquid stools since morning. Skin dry and rough; urine, during the last ten hours, upwards of three pounds; pulse ninety-two. Continuentur medicamenta ut heri, et capiat hora somni.—Opii gr. iv.; pulv. ipecac. gr. iv.; sub. sulph. hyd. flav. gr. ij. M. fiat pil. ij.*

24th.—Slept well, and has perspired very copiously during the night, so much so, that it became necessary this morning to remove the blankets which were next him. Œdema daily decreasing; countenance becoming much more natural; mouth continues sore; appetite good; pulse eighty-two. Continuentur garg., decoct. hord., mist. diuret., et sp. vin. Holland.

Six P. M.—Has had no stool for the last twenty-four hours; skin moist; pulse ninety. ℞. Pulv. jalap. gr. x.; supurtart. potassæ ℥iv. M.

25th.—Appears to-day much better in every respect; has had three copious liquid stools from the purgative. Œdema of the extremities entirely reduced, that of the abdomen so much so that it does not now pit on pressure. Still spits freely; urine of a more natural appearance, and begins to diminish in quantity; appetite very keen; thirst much less urgent; skin moist; pulse eighty-two. Diet as before. Continuentur medicamenta.

26th.—Has had a good night. Anasarcous swelling all over the body completely gone. Says that he feels daily getting stronger, but has still considerable numbness of the lower extremities, particularly felt upon attempting to walk; mouth getting better. Has flannel bandages tightly applied from the toes up to the groin on each side, and the parts well rubbed with stimulating liniments. Habeat bis in die vin. alb. ℥ij.—Continuentur alia ut heri.

27th.—Continues improving: says his appetite is now so keen that he can scarcely satiate it; general appearance good; skin moist; pulse eighty-six and strong; bowels open. Had a blister applied last night along the course of the spine, in the dorsal region, which has risen well. Continuentur medicamenta.

28th.—Complains only of the soreness of his mouth, which is, however, getting fast well. Walked for nearly a quarter of an hour yesterday, without feeling much fatigued. Continuentur medicamenta.

29th.—Improves in strength daily. No stool for the last twenty-four hours; skin moist; pulse natural. ℞. Pulv. jalap. gr. vj.; supertart. potassæ ℥ij. M. statim sumend.—Contr. alia ut heri.

30th.—Makes little or no complaint to-day: mouth almost well. Has had two stools from the cream of tartar and jalap given yesterday. Contr. medicamenta.

December 1st.—During the last two days has wonderfully improved in appearance. Appetite continues good: pulse regular; skin moist; bowels open; tongue clean; voids about the natural quantity of urine in the twenty-four hours. Contr. medicamenta.

2d.—Perfectly well, except a slight numbness of the inferior extremities, which still continues. Contr. medicamenta.

3d.—Had a second blister applied last night, about two inches broad, along the whole course of the spine, which has risen well. Curetur ulcus ungt. sabin.—Contr. medicamenta.

4th.—Continues well in his general health. Habeat vini libram indies.—Omittantur alia.

5th.—Discharged from the sick report, with instructions not to resume his duty until the numbness of the extremities shall have been completely removed.

This individual, in about ten days from the time that he was discharged, had perfectly recovered the use of his limbs, and was in every respect completely cured.

* The above description of the late Dr. Marryat is perhaps the most effectual diaphoretic that can be given, and at the same time mild in its operation.

From the London Medical Gazette.

ON THE HIGH OPERATION OF LITHOTOMY. By M. Dupuytren.

M. Dupuytren thinks the above operation ought not to be employed as a general method; that is to say, in all cases indiscriminately, without regard to age, sex, or constitution, or without reference to the probable size of the calculus; but that it should only be had recourse to either when the tuberosities of the ischium approach each other more than usual, when tumours are situated in the lower strait of the pelvis, or where the great size of the stone would render its extraction difficult, or impossible, from below. M. Dupuytren supports his opinion by quoting the result of Frère Come's experience by this method of operating, in eighty-four individuals of different sexes, of all ages, constitutions, and states of health; by which it appears that one out of 4½ of the whole number, perished. This appears much more unfavourable than the result obtained by the subpubic operation practised indifferently, as in the experiment of Frère Come, upon children, women, adults, and old men. As to the instruments and mode of operating employed in these cases by Frère Come, M. Dupuytren, whilst he admits their real advantages, is far from considering them as obviating all the dangers attending the operation. In a thesis sustained by M. Dupuytren, in the year 1812, occasioned by the competition for the chair of operative medicine, vacant by the death of Sabatier, he gave it as his opinion that the incisions made in the perinæum, and in the neck of the bladder, added to the dangers of the high operation all those of the lateral one. More recently he expressed

this opinion, that a sound placed in the bladder, either by the perinæum or by the urethra, added to the inconvenience and danger of the high operation, without being productive of any marked advantages in the re-union of the parts. These two opinions have, however, been for some time the object of controversy among practitioners. Some maintained that an incision made in the perinæum, if of small dimensions, added nothing whatever to the danger of the hypogastric operation, and that it afforded considerable facility to the introduction and management of the *sonde a dard*, which they thought indispensable in the performance of the high operation. They added, that this incision, terminating at the most depending part of the bladder, presented a ready exit for the urine; thus diverting it, as it were, from the upper opening made in the abdomen.

Among the objections made to M. Dupuytren's opinion, that which consisted in saying that the incision in the perinæum and neck of the bladder added nothing to the dangers of the operation, fell before the results of the lateral method, which, according to age, season, or other circumstances, is mortal in the proportion of one individual to five or six. Now, what is the opening made in the perinæum, in the high operation, but adding the lateral operation also. It is in vain to say that this incision, made as small as possible, is much more free from danger than the lateral method, for we know too well that the danger of this incision bears no proportion to its extent. The objection drawn from the facility which this incision gives in introducing and managing the *sonde a dard*, is a little more specious; in fact, it cannot be denied (if the *sonde a dard* be really indispensable) but that it may be more easily made use of by introducing it into the bladder by means of an incision in the perinæum, but first it may be used by introducing it by the urethra, as M. Dupuytren has proved upon the living subject many times. In order to do this, it has been sufficient to give its extremity a greater degree of curvature than ordinary, and to lower the handle more forcibly after having introduced it into the bladder, which, owing to the flexibility of the urethra, is easily done. The *sonde a dard* is any thing but indispensable to the performance of the high operation, as we shall prove from among a number of similar cases.

As to the facility which the opening into the perinæum affords to the flow of the urine, it is easy to conceive that an instrument introduced into the bladder, through the urethra, fulfils this indication equally well, and with less danger, than the incision in the perinæum. But the belief that an incision so made, and an instrument thus introduced into the bladder, prevent the escape of the urine by the upper wound, is a supposition which, according to M. Dupuytren, experience and observation daily contradict. In fact, whatever may be the size of the incision made in the perinæum—whatever may be the caliber of the catheter passed by the urethra—we never find the urine completely withdrawn from the opening made in the bladder above the pubes; it flows always from both openings. It would appear, to use M. Dupuytren's expression, that whenever the bladder is wounded in any part, that point becomes the centre towards which all the contractions of this organ are directed, and consequently the urine is expelled by these contractions; so that he has long looked upon all the precautions taken to prevent the urine from escaping by the wound made into the bladder, as useless. He goes further, for he regards all such attempts as dangerous; such as apposition, suture, compression, and other similar means;—he thinks that they are only calculated to produce infiltrations of urine, and consequent inflammation either of the abdomen or of the cellular tissue of the pelvis, two of the most unfortunate accidents to which lithotomy gives rise. He, therefore, believes it to be the best plan, after having performed the operation above the pubes, to leave the wound to itself, merely keeping the edges apart, and observing a relaxed position of the body. The relation of the following case will explain M. Dupuytren's mode of operating better than all the general remarks that could be offered.

M. Leroy, 62 years of age, an inhabitant of Chantilly, and architect to the late Prince de Condé; of a middle height, strong constitution, and sanguine temperament; accustomed to great fatigue, and very active; who had always made use of a rich diet and generous wines, had suffered for a considerable time from a frequent desire to make water, difficulty in passing it, and severe pains after having emptied the bladder; to these symptoms attacks of hæmaturia had been added, whenever he had taken more exercise than ordinary, or committed an excess in eating or drinking. During the two last years, all these symptoms had become aggravated, the flow of urine was almost perpetual and involuntary, and there was continual pain both in the hypogastrium and perinæum. At this period a surgeon sounded the patient, but discovered no calculus. At the end of a year another surgeon pronounced the disease to be a catarrh of the bladder, and prescribed a plan of treatment accordingly: nevertheless, the condition of the patient grew worse from day to day; the water came away only drop by drop, after violent efforts, and accompanied by great pain. Worn out with suffering, the patient was obliged, in spite of his resolution, to keep his bed, where he was soon attacked with a slow fever, and fell away perceptibly. The urine at this time gave out a strong ammoniacal odour, and seemed composed of a mixture of urine, blood, pus, and mucus. It was in 1824 M. Dupuytren was called to see the patient at Chantilly. Upon the relation of the above symptoms, he foretold the existence of a stone in the bladder, and that it was either very large, or entangled in the neck of the viscus. He sounded the patient, and the beak of the instrument struck against a stone before it entered the cavity of the bladder. M. Dupuytren made several attempts to pass the instru-

ment further on, and he only succeeded with difficulty and in part; the sound placed between the stone and the parietes of the bladder, appeared to be squeezed as in a vice. He withdrew the sound, placed his finger in the rectum, and found the lower portion of the bladder dilated, and rendered hard by the presence of the foreign body. After bending the trunk of the body, he next examined the hypogastrium, and discovered below the pubes, at the base of the median abdominal line, a hard, resisting, and voluminous body, which he could alternately raise and depress, by placing one finger on the rectum, and the other hand on the hypogastrium. The urine which was shown to him appeared to be purulent; but the inflammation of which it was the product, was, in his opinion, only an effect of the presence of the calculus, which would disappear when that was removed. The size of the stone determined M. Dupuytren to perform the high operation. A bath and a mild aperient were administered, and on the following night the operation was performed by M. D., assisted by MM. Sansons, Lemaire, Marx, and Dr. Souze. The pubes being shaved, and the patient laid upon his bed, the bladder, hypogastrium, and rectum, were again examined: this examination having confirmed the previous one, M. Dupuytren, placing himself on the right side of the patient, introduced a common silver catheter through the urethra; but this being stopped by the stone, at the neck of the bladder, could penetrate no farther. Water was injected through the catheter, in the hope that it would open the passage, but it passed out again as fast as it was introduced. A *sonde a dard* was substituted for the catheter, but this succeeded no better; and, therefore, M. Dupuytren at once made up his mind to dispense both with the injection and the *sonde a dard*, as he had for a long time done with respect to the incision in the perinæum: changing his position, therefore, to the left side, and placing M. Sanson on the right, he caused the patient to bend his legs upon his thighs, and then upon the trunk of the body. M. Sanson then introduced his fore finger into the rectum; raised up the stone, and forced it to project as much as possible above the pubes. M. Dupuytren then taking a bistoury, whose cutting edge was convex, commenced an incision level with the upper edge of the symphysis pubes; which he continued in a direction towards the umbilicus, in the median line, for the space of three inches: the skin and cellular membrane, tolerably loaded with fat, being cut through, and the aponeurosis of the muscles being laid bare, and likewise divided, the pyramidal muscles were separated, and the recti muscles, which were by the force of their contractions pressed against each other, divided across for the space of a few lines on each side: the operator's finger passed into the wound, felt the stone, and it was still more sensible to the touch each time that M. Sanson pressed it upwards from the rectum. Resting the cubital edge of the fore finger of his left hand on the symphysis of the pubes, and sliding the point of a straight and sharp-pointed bistoury along the nail of the above finger, he plunged this instrument into the anterior part of the bladder, immediately behind the symphysis pubes: instantly, a discharge of white, thick, inodorous pus rose from the bottom of the wound. M. Dupuytren thought that this discharge proceeded either from an abscess in the loose cellular tissue about the bladder, or in the thickened substance of that organ; however, the point of the instrument had touched the stone, and therefore entered the bladder: this opening was enlarged from below upwards, to the extent of five or six lines: the fore finger, which had been employed to direct the cutting instrument, was pushed on in the same direction, and entered the bladder with it. The bladder appeared to be half an inch in thickness, and its cavity was filled with an enormous calculus. It was with great satisfaction the operator observed that an interval of two inches existed between the highest point of his incision and the upper part of the bladder not covered with peritoneum; he therefore prolonged the incision by means of a button-pointed bistoury. He then proceeded to the extraction of the stone, which appeared fixed by its mass and shape, and by the contractions of the bladder. M. Dupuytren took a pair of forceps, the handles of which he took apart from each other, and placed them one after the other upon the opposite side of the calculus; and after reuniting them, he, by moving it from left to right, and upwards and downwards, loosened it; and then, causing M. Sanson to raise it up forcibly, he drew it forth. Its form was exactly that of the bladder, which it entirely filled; its dimensions were *three inches and a half in length, three inches in breadth, and two and a half in thickness.* it weighed six ounces and a half, and was composed of ammonico-magnesian phosphate. M. Dupuytren then examined the bladder, and threw in an emollient injection, which was readily discharged by the wound. The dressing was of the simplest description: the patient felt immediately relieved; but in the course of the night pain in the abdomen came on, attended with cold chills, succeeded by heat and fever, together with nausea and hiccup. A large bleeding from the arm, which was repeated the next day, removed these symptoms. On the third day some urine escaped by the urethra; the next day suppuration of the wound was established, and in about a month the cure was complete; since which time the patient has remained quite well. M. Dupuytren observed in conclusion, that in other cases it would be desirable to distend the bladder by means of an injection of warm water.

From the London Medical and Physical Journal.

OBSERVATIONS ON FEVER. Addressed to a Medical Friend, by Dr. Bow, of Alnwick.

According to promise, my subject must be the theory of fever, although it is one I would

willingly decline; for I now think I was presumptuous when I proposed to enter a field where so many able men have toiled. Nevertheless, the sources of those symptoms to which the term fever is attached, are still concealed; and, since profound research, skill, and ingenuity have failed, chance may direct the steps of the humblest labourer, or a lucky thought may give the clue by which the mystery may be unravelled: this can alone support an adventurer such as I am, and be his only apology for venturing to meddle with this most difficult of all speculative subjects.

You will agree with me, that a theory of fever is wanted; one, at least, which might in some degree guide the practitioner; for even now, notwithstanding the many that have seen the light, we are forced to acknowledge that we grope in the dark, and to confess that our practice owes its success more to chance than to science. I know it to be the opinion of some that a rational and successful plan of treatment may be found independent of the knowledge of the proximate cause of fever. In this opinion, however, I cannot coincide; for, although we be successful in our practice, and therefore call our plan rational, we but combat a symptom as it appears with the remedies with which experience has armed us, and we anticipate another which experience teaches us to expect, but we know not what gives birth to the one, nor how the action we induce, operates in preventing the other. A knowledge of the origin of the phenomena of fever cannot be prejudicial to the practitioner; neither can an attempt to investigate it render him who makes it less skilful in his art. Perhaps our physiological knowledge has not arrived at that perfection which might authorize us to pronounce upon the functional derangements which give rise to symptoms, yet I think careful observation, induction from physiological facts, a proper application of pathological research and experiment, and a judicious culling from the theories extant, may yield principles approaching to truth, and convey to us some idea of the nature of fever. Cullen put so much value on the knowledge of the proximate causes of diseases, that he believed the cure to be founded chiefly, and almost unavoidably, on that knowledge; and it was with a view to the better conducting of the practice in fevers that he reared his theory, a structure which, as Dr. Good remarks, "if it be at this moment crumbling into decay, certainly is not falling prostrate before any fabric of more substantial materials, or more elegant architecture."

Every unbiassed physician believes with Cullen that the phenomena of fever in its earliest stage depend on some remote cause acting immediately on the nervous system; and, if the symptoms themselves did not point to this origin, the very sudden invasion of fevers, in many cases, is sufficient to warrant the conclusion.

The remote causes are certain sedative powers which diminish the energy of the brain. Though there be yet much to learn regarding the functions of the brain, I think, if we pursue our inquiry with the knowledge we do possess, we may arrive at something satisfactory. For the sake of distinctness, let me explain what I understand by the energy of the brain, or rather in what sense I wish to be understood. By energy, I understand activity, a mere quality. By nervous influence, I mean the nervous fluid secreted by the brain and spinal marrow, and emanating from them. It appears that there are modifications of this influence, flowing by separate and distinct nerves; or, if not, the nerves themselves are so modified that, carrying the same matter, they perform separate and distinct functions. Such a modification was at first suspected, and is now proved by experiment; one set of nerves producing the effect of sensation, another set the effect of motion. But there is another modification, it is strongly suspected, either of nerve or nervous influence, which is supposed to play an important part in the animal economy, which, were it substantiated by experiment or otherwise, would, I think, enable us to thread the pathology of fever; and, in my opinion, the arguments in favour of such a modification are of more weight than those opposed to it. It is that modification of nerve or nervous influence which is supposed to effect secretion. The nervous hypothesis of secretion appears to me to be the only plausible explanation of this operation,—the only one which can be fairly and legitimately adopted, and, indeed, the objections brought forward by its opponents are attempts made rather to weaken the inferences drawn in its support, than facts directly opposed to it. Having said thus much, I think it incumbent on me to advert to some of those objections, and I trust you will pardon the digression, not only because secretion is a subject in itself highly interesting, but because, unless we can form some idea of the real nature of the function, we may bid adieu to the hope of tracing the proximate causes of idiopathic diseases.

Dr. Good concludes, with Sir E. Home, that, "the organs of secretion are principally made up of arteries and veins, but there is nothing in the different modes in which these vessels ramify, that can in any way account for the changes in the blood, out of which secretions arise." These organs being largely supplied with twigs of small nerves, naturally gave rise to the idea that through their instrumentality is secretion effected. In support of this view, Sir E. Home observes, "that, in fishes which are capable of secreting the electrical fluid, the nerves connected with the electrical organs exceed those that go to all the other parts of the fish, in the proportion of twenty to one;" and, in confirmation of this view of the subject, Dr. Good remarks, "that there are no parts of the body more manifestly affected, and few so much so, as the secretory organs, by mental emotions. The whole surface of the skin is sometimes bedewed with drops of sweat, and even of blood, by a sudden paroxysm of agony of mind; grief fills

the eyes with tears; fear is well known to be a powerful stimulant to the kidneys, and very generally to the alvine canal; anger gives an additional flow, perhaps an additional acrimony, to the bile, and, if urged to violence, renders the saliva of some animals poisonous; and disappointed hope destroys the digestion, and turns the secreted fluids of the stomach acid." Although the above seems to prove that the secretory organs are chiefly influenced by the sensorial system, yet it is denied that secretion is effected by nervous influence, because Haller observed that the larger branches of the nerves seldom enter into the secretory organs, and seem purposely to avoid them; because the secernent glands have little sensibility; and because the secretions of plants, which have no nervous system, are as abundant and diversified, and as wonderful in every respect, as those of animals. In all this I do not see one valid objection: it is now known that there are two distinct classes of nerves, independent of the great sympathetic, —the motor nerves, which can have no necessary connexion with the secernent glands, do avoid them, and even that perhaps purposely; and, if the glands possess but little sensibility, although largely supplied with twigs of small nerves, it is evident that all these twigs cannot proceed from sentient nerves, and, as no other nerves are acknowledged but those arising from the brain, spinal marrow, and great sympathetic, it is evident they must proceed from the last mentioned; the more especially as branches from the great sympathetic can be traced to every gland and every secreting surface.

Plants are living structures to be sure, but they differ from animals, inasmuch as they exhibit neither signs of sensation nor of voluntary motion: consequently, we do not expect to find in them either nerves of sensation or of volition. They differ in another point of view, which ought to lead us to think that the operations in the vegetable kingdom are principally effected by external influence: the laboratory of the vegetable kingdom is external, whilst that of the animal kingdom is internal. In this respect, plants are indeed the inverted animals of Dr. Alston. Linneus has been blamed for too fondly searching after analogies by which he might approximate the vegetable to the animal system, but it would appear that we are possessed of a similar propensity, since we reject a plausible explanation of an operation carried on in the animal, because, forsooth, we cannot analogically explain a seemingly similar operation going on in the vegetable. That the sunbeam possesses rays endowed with a deoxidizing power, the analysis of light has revealed to us. By exposure to these rays, and to atmospheric action, is the sap modified in the leaf; it is then conveyed to the cells in the parenchyma, where, by further exposure, it is fitted for the purposes required of it; and as in the light plants produce oxygen gas, when in the dark they do not, we can only conceive that oxygen is separated in consequence of some new combination effected through the agency of light. Thus light may effect the decompositions and recombinations necessary to the vegetable, whilst nervous influence performs these processes in the animal: hence vegetable secretion is influenced by locality and the seasons, animal secretion by whatever perceptibly operates on the nervous system.

Dr. Bostock's principal objection to the nervous hypothesis, and which, by the bye, he brings forward as a direct argument in opposition to it, is, that secretion appeared to be produced in fœtuses which had no nervous system. I have no opportunity of examining the cases cited, but, admitting that in all of them the brain, cerebellum, and spinal marrow were wanting, it does not follow there was no nervous system, for in similar cases the sympathetic nerves have been found perfect; and, if the great sympathetic has more than one function, I am inclined to believe that secretion in general is performed through its instrumentality. Organs so important as the brain and spinal marrow are protected from external injury by their bony casements, but the sympathetic, although it has no such covering, yet, from its situation, it is still better protected, and, as nature does nothing without an object, we might infer that its functions are highly important. And what function, the due perfomance of which is more necessary to health and life than secretion? Sensation or voluntary motion may be impaired or almost wholly destroyed without necessarily causing death, yet these are functions performed through the instrumentality of separate and distinct nerves. Secretion is a function which cannot even in part be destroyed without endangering life, yet we deny that this function is performed through nervous agency, although we can trace nerves proceeding to the organs of secretion, knowing at the same time that they are nerves neither of sensation, nor of voluntary nor involuntary motion.

I have said that, by nervous influence, I mean the nervous fluid secreted by the brain and spinal marrow; but, by saying so, I do not wish to be deprived of the privilege of supposing that nervous fluid may not be secreted by the great sympathetic, and emanate from it also, for I do not think that Bichat was altogether incorrect in supposing that this nerve is independent of the great system of nerves. Anatomists do not say that the sympathetic arises from the sixth pair; for it is supposed that, instead of receiving filaments, it gives filaments to that pair. Or, according to Shaw, "when the foramen caroticum is opened, a plexus of nerves will be found surrounding the carotid artery, which appear to be united with the sixth; but which, when carefully traced, will be found to pass over the sixth, to unite with the casserian ganglion of the fifth. There will also be branches seen passing along the vidian nerve, to form in union with it the ganglion of Meckel." From repeated dissections, Mr. Shaw concludes that the fifth pair resembles the spinal nerves in every respect;

and by the fact that many of the branches of the sympathetic *go to* the ganglionic portion of the fifth, it is proved, he says, that even the connexion between the sympathetic and fifth is *similar* to the union of the sympathetic with the ganglionic roots of the spinal nerves. Notwithstanding this similarity of connexion, Mr. Shaw, it will be observed, in speaking of the branches of the sympathetic which join the ganglion of the fifth, constantly says that they go to the ganglion; whereas, in speaking of the spinal nerves, he says, "we shall find that each nerve has a double root,—i. e. one from the anterior and the other from the posterior column of the spinal marrow; that the one from the posterior has, immediately before it joins with the anterior, a ganglion formed upon it; and, if we carefully examine this, we shall find that from each ganglion a small nerve is *sent off* to join with the sympathetic."* The mode in which the sympathetic proceeds to and joins the casserian ganglion evidently proves that we are correct in saying that branches pass over the sixth pair to unite with this ganglion; and consequently, in describing the branches which pass off from the casserian ganglion, Mr. Shaw takes no notice of the sympathetic; whereas, since he has proved the union of the sympathetic with the ganglionic roots of the spinal nerves to be similar to the connexion between the sympathetic and the fifth, we certainly ought to believe, from analogy alone, that the sympathetic rather gives than receives a branch from the ganglionic roots.

The idea that the sympathetic is an independent nerve is almost confirmed by the observation that it has been found perfect in monsters in which the brain and spinal marrow have been found deficient; but this, it is said, forms no argument for its independency, for in such creatures the spinal nerves are also found, which are acknowledged to have their origin from the spinal marrow.†

This, however, appears to me not only to form no argument against the sympathetic being an isolated nerve, but to form one in favour of its being instrumental in assimilation. Mr. Shaw, who opposes the inferences drawn from the effects which follow the division of the par vagum, says that the same deductions have been drawn from experiments where the par vagum and sympathetic have been cut, as from those where only the par vagum was divided. This, however, so far from weakening the inferences drawn in regard to the par vagum, gives us cause to impute a similar power to the sympathetic,—viz. that it also is a nerve of secretion. If the stomach depended altogether on the sympathetic system of nerves for its supply of nervous influence, health, nay life itself, could be but the tenure of a moment, liable to be extinguished even by the ingesta meant to support it. But, to guard against this, the stomach has been provided with a pair of nerves derived from the brain, through which, when a supply of gastric fluid is required, is the influence necessary to its secretion transmitted. Were it not for those nerves, the demand for nervous influence must have been made on the sympathetic system, and the supply granted at the expense of other vital organs. Even as it is, when nervous energy is very low, danger constantly attends a sudden call for nervous influence. A full meal to a person reduced to the last extreme by hunger is followed by death, because, as the brain cannot immediately supply the necessary influence, the ganglionic system is drained for the purpose, and the heart ceases to pulsate: in like manner, a cathartic one, reduced by disease, causes death by determining to the gut the little of influence with which the ganglionic system is then supplied. In fishes, the great sympathetic is extremely slender, but, as if to compensate for this, the eighth pair is remarkable for its size and distribution: a branch of it even extends under the skin as far as the tail fin,* evidently for the purpose of effecting the secretion of that slimy fluid which protects the skin. In the skate, that slimy fluid issues from ducts which terminate on almost the whole surface of the skin. These ducts Dr. Monro has traced from central parts, from whence they radiate, and there a pair of nerves terminate, which, before they divide, are nearly as large as the optic.† For what purpose, then, are such large nerves sent to these ducts, if it be not to effect the secretion of their contents.

Some of the oppositionists to the nervous hypothesis not only deny that the nerves are concerned in the process of secretion, but they would have us to believe that in some instances nervous action retards and disturbs the process. Nervous action is found in some instances even to retard and disturb the assimilating process; for it is a matter of observation that in many cases of hemiplegia, where the nervous power is withdrawn or impaired, digestion goes on better than in ordinary health, and an obstinate ulcer has been found to heal quickly after the limb was struck with palsy."‡

Were I to search for facts as arguments in favour of the hypothesis, I should certainly draw upon the above, and infer that digestion depends upon nervous, inasmuch as, in many cases of hemiplegia, it goes better on than in ordinary health. We have no proof that, in many such cases, nervous influence is not secreted: we know, however, that it is not transmitted as usual to the paralytic members, and therefore it is but reasonable to suppose that other parts of the body will be better supplied. Upon the same principle, opiate frictions

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* Manual of Anatomy, by John Shaw.

† Shaw on the Superadded Nerves, (Lond. Med. and Phys. Journal, vol. 59.)

* Outlines of Comparative Anatomy, by Andrew Fife.

† Ibid

‡ Elements of Medical Logic, by Sir G. Blane, Bart.

improve digestion, and accelerate the healing of ulcers.

As there are at least grounds for supposing that secretion is a nervous process, we cannot help forming to ourselves some idea of the nature of that process; and, if our ideas do not actually militate against any known law of the system, there can be no harm in arranging them even on assumption.

Let us suppose the blood to be acted on by the nervous influence, after the manner in which fluids are acted on by galvanism, and we can conceive no apparatus more exquisitely fitted for the purpose of secretion than a gland. In a gland, the arteries soon become so minute that they cannot carry forward the grosser particles of the blood: these are returned by the veins, whilst the finer stream is carried towards the secretory duct; but in its passage there, and in its most extenuated state, it is subjected to the decomposing power of the numerous small nerves which proceed from the sympathetic; its elementary affinity is subverted, and the minuteness of the vessels which favoured the decomposition favours likewise the recombination; and, as the absence or presence of one atom is only necessary to change in toto the appearance and properties of matter, so we have, according to the force of the decomposing power, and the circumstances under which the recombination takes place, a diversity of fluids, differing more or less from the fluid furnishing the elements.

Yet, after all, the admission on all sides that the nerves possess an influence over the secretory organs, is sufficient for my purpose. The remote causes of fever being certain sedative powers which diminish the energy of the brain and nervous system, let us inquire what we ought to expect from such diminished energy. As the general condition both of body and mind depends upon the operative state of the brain, these must become enfeebled in all their powers, as a natural consequence of diminished energy of that organ. This enfeebled state is manifested by listlessness, dejection of spirits, and muscular debility.

But there are other symptoms, which our knowledge of the functions of the nervous system enables us to trace to the same cause. We know that the capillary arteries are under the influence of the brain, that they forward their contents by a power regulated by it; and the knowledge of this fact explains to us why paleness of the face, and cold sensations on the surface of the body, are invariably among the primary symptoms of fever. For, owing to the want of power in the vessels to carry on the circulation, the blood forsakes the surface: hence, were nervous influence present sufficient even for the evolution of heat, one material necessary to its production is in a great measure wanting. The diminished energy of the brain is sufficient in itself to account for the low quick pulse, but, as the heart is also influenced by its contents, we may there detect an additional cause of this symptom.

The change which the blood undergoes in the lungs is altogether depending on the nervous influence: if this influence, then, be not supplied in due force, that change cannot be duly effected, and the heart can only receive blood wanting in its stimulating principle. As all nerves require a regular supply of influence in order to the due fulfilment of their functions, all must be affected more or less when the energy of the brain becomes impaired; therefore the nerves supplying the respiratory apparatus share the effects. The diaphragm cannot contract as it ought to do, and the muscles destined to raise the ribs are unfitted for their office: hence the sense of weight or anxiety about the precordia, occasional sighing, or hurried breathing.

The particular sensation of cold of the back and pain of the loins may be referred to venous congestion, caused by the retrocession of blood from the surface pressing on the dorsal and lumbar twigs as they emerge from the spinal canal; for we know that pressure or irritation of a nerve in its course may give rise to unpleasant or painful sensations at its extremity, while the same pressure on the motor twigs must undoubtedly be the cause of the rigours. In the latter opinion I am, I think, in part borne out by the fact that, in those dying in the cold stage of ague, such congestion is found; and also by the observations of Bell and Shaw; for, when they irritated or simply pressed those twigs between the blades of the forceps, they observed that the muscles to which they proceeded were spasmodically affected.

As these and all other symptoms which manifest themselves during the cold stage of fever, may be traced directly or indirectly to impaired nervous energy, I shall, in the next number, pass to the second stage, or that of excitement.

From the London Medical Gazette.

A CASE OF NON-UNION OF THE THIGH,

In which three *Modes of Treatment were unsuccessfully employed; followed by a Description of the Appearances of the Bone, and Connecting Medium after Amputation; read by Mr. Amesbury before the London Medical Society, Feb.* 18, 1828.*

Malcom Maclean, a strong healthy sailor, æt. 36, admitted into St. Thomas's Hospital, March 11, 1827, under Mr. Green, having a very loose oblique fracture at the upper part of the middle third of the thigh, of twenty-four weeks' standing. It having occurred on shipboard, with no medical attendant, nothing was done for ten days, when he was admitted into a Portuguese hospital at Monte-Video; and short splints, extending from the pelvis to

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* Care has been taken to preserve all the *points* in the case; but, as read by Mr. A., it was too diffuse for our limited columns. We have, however, from the interest of the subject, devoted a considerable space to it.

the knee, were applied without, (after eight weeks' trial,) producing any good effect. Of course, directly after the accident, some pain, tumefaction, &c. arose, but, however, gradually subsided; and, at this time, (when he was removed on board to return to England,) all pain had left him, and the fracture was very mobile. Similar attempts at producing union were continued on the voyage home, but no good resulted.

A week after admission into St. Thomas's, Mr. Green very politely offered Mr. Amesbury the management of the case. On attentive examination the fracture was found (in the situation above described) oblique, extending downwards and outwards, very loose and mobile; by extension the ends could be brought into apposition, but otherwise the lower portion was drawn upwards and inwards, about two inches and a half; the upper somewhat bent upon the pelvis. The fractured ends could be freely moved on each other, (the lower portion could indeed be almost bent upon the upper,) without or with very trifling pain; some, however, was produced by firm pressure with the fingers.

First Mode of Treatment—By Pressure and Rest.—Mr. Amesbury having never yet failed in curing cases of non-union by this method, with the consent of Mr. G., determined to give it a fair trial; but stated at the time, his fears as to the result, not having before seen a case in which the fractured ends were so loose; and *suspecting*, as he did, that a preternatural* capsule had formed, which must, he suspected, be absorbed before callus would be thrown out. His apparatus, "which he has invented for fractures of the middle and lower thirds of thigh—simple and compound, fractures of the leg, and dislocations of the ankle," was applied, so as to *maintain "the proper length of the limb, and press the fractured surfaces strongly together."*

The apparatus was worn ten weeks; during the whole of which period more or less pain was felt in the seat of fracture, (except for three or four days before the removal of the apparatus.) The first few days it was severe, then becoming more moderate, the straps of the apparatus were tightened, and the pain again increased.

Although these symptoms, which precede union, existed, and were indeed more severe than in any former case Mr. A. had seen, no benefit was produced; the only effect being a condensation or adhesion of the soft parts around the fracture, and thereby, in some measure, confining them; but the mobility continued.

Treatment by Seton.—The opinion previously entertained of the existence of a preternatural capsule, probably lubricated by a synovial-like fluid, being now more strengthened, it was determined to introduce a seton between the fractured ends, which would not only destroy the integrity of the capsule, supposing it to exist, but also (and at all events) "produce a high action" of the parts favourable to the union desired.

The man, previous to the operation, was placed on one of Mr. A.'s fracture-beds, which, from its construction, allowed of the limb being first secured of its natural length; and, while in that position, a long and somewhat curved seton needle was, without difficulty, passed from behind forwards between the fractured ends, the silk with which it was armed being permitted to remain. The foot and pelvis being fixed with the limbs on the double-inclined plane on the fracture-bed, (without any retraction having for a moment been permitted to take place after the operation,) a splint was applied along the outer side of the limb, and secured in such a manner as to press the fractured surfaces gently together, without pressing the surrounding soft parts.

A good deal of constitutional excitement followed this treatment; the local irritation was rather severe, suppuration took place in two or three days, large quantities of pus were discharged, and he began shortly to emaciate. The matter in about a fortnight began to burrow under the fascia, and so much did his health suffer, that it was thought necessary on the nineteenth day to remove the seton. An opening had been made for the discharge of the matter which had burrowed at the upper and inner part of the thigh, from which, for some time, matter was copiously discharged, but gradually diminished, and ultimately both it and the openings from the seton-needle healed. The only effect on the fracture was a farther condensation and hardening of the soft parts around it, "such as has been often mistaken for callus."

Generous diet, tonic medicine, and the removal of local irritation, soon restored his usual good health; and every possible care was taken to maintain the fractured ends in apposition, and at rest: this, however, was, to the letter, impracticable during the succeeding five weeks of suppuration, it being necessary to move the splint daily to clear away the matter. When the suppurative process had ceased, he was continued on the fracture-bed, with the whole thigh enveloped in short splints, to again maintain pressure and rest. This was persevered in for a month, but to no purpose—the non-union was still to be cured.

Operation of cutting down upon the ends of the Bone.—Some time after the last report it was determined to perform the above operation, (the poor fellow entreating that something might be done,) and having exposed the fracture, to proceed as appearances might warrant.

The limb being secured on a double-inclined plane to command the femoral muscles, Mr. Green made a crucial incision, commencing about the middle of the rectus, and carried through the belly of the vastus externus to the

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* Mr. Amesbury used in his paper read to the Society the term "artificial" capsule. This, however, appears preferable, and was suggested by Dr. Clutterbuck.

posterior part of the thigh. The flap was dissected upwards, and the fractured end of the upper portion of the bone brought into view, when it was seen that the extremities of the bone were connected by a thick, dense capsule, resembling somewhat that of the hip-joint, the integrity of which Mr. G. next destroyed by the removal of a portion, when the inner surface was found smooth and shining; about half an inch of the upper portion of bone was next removed by a Hey's saw; it was covered with a ligamentous deposition. Nothing could be done with the lower portion of bone, which, lying somewhat to the inner side of the upper, could not be got at without extending the wound of the soft parts, which Mr. G. and the surgeons present considered objectionable. Two or three small vessels being secured, he was left on the fracture-bed, and extension maintained in the manner peculiar to it, without any splint on the thigh. The wound was lightly strapped with adhesive plaster, and covered by a poultice.

It may be worth remarking, that during the operation he made no complaint, except when the finger was passed into the capsule, (in order to ascertain its extent,) when he complained of considerable pain being produced.

Very trifling constitutional irritation followed this operation, so that on the following day he was allowed full diet. "The limb became moderately swollen at the seat of the operation, and suppuration was established on the third day; the greater part however of the cut surfaces united, and but a small opening remained at the upper and outer part of the wound for the escape of matter, some of which subsequently burrowed to the upper and inner part of the thigh, producing some excitement of the system, which, however, quickly subsided when the matter was evacuated by the lancet. On the tenth day pressure was again employed by padding a splint, placing it on the outer part of the thigh, and tightening it," in order to produce absorption of the adventitious matters at the fracture. This was managed so as not to interfere with the wound.

Seven weeks after the operation the wound was not completely cicatrized, but the wounds at the upper part of the thigh were healed, and it was now determined to make more powerful pressure; in order to effect which, in addition to the outer splint, a short one was applied, extending on the inner side from the knee to the wound. The web of a tourniquet was now passed round the limb, over the splint just below the fracture, and thus tightening to any extent could be produced and maintained.

This, however, produced no particular excitement, although continued for a fortnight, when the limb was examined, and found no better than on his admission. It was perfectly useless, indeed an incumbrance, and the poor fellow begged to have it removed, which in consultation was agreed to, and on Friday last the operation was performed by Mr. Green in a very masterly and somewhat novel style. It was a flap operation, but instead of making as usual two angles, one at the anterior and another at the posterior part of the limb, he left but one angle of the integuments, and *that* anteriorly, with a *circular* incision posteriorly; so that instead of trusting for the accuracy of the adaptation of his flaps to the extent of integument left, being precisely the same on both sides, the circular incision posteriorly admitted of his adapting the angles anteriorly to each other, with the *certainty* that the whole flaps would be accurately adapted, whereas if an angle had been left behind, *that* also must have been looked to. The bone was sawn through just above the fracture, and about half an inch below the trochanter minor.

Examination of the Limb.—The bone when sawn through was not altered in texture, as it will be remembered was the case with the portion removed at a former operation. The preternatural capsule was again entire, although a portion had been before removed; the greater part was thick and dense, but the upper portion was more thin: its internal surface was smooth, shining, and lubricated with synovial-like fluid. The ends of the bone, (the whole surfaces of which were not exactly in apposition, the lower portion being drawn to the inner side) were rounded, (except being flattened where they came in contact,) and covered with a dense fibro-cartilaginous structure, somewhat resembling the intervertebral substance, "especially that part of it found half way between the centre and circumference." The whole cellular tissue around was considerably condensed, and when cut presented some hardness.

Mr. Amesbury then read some remarks on the case, which our limits oblige us to notice very briefly.

That this patient is of a strong constitution, Mr. A. remarked, we have abundant evidence; and this accords with his observations in forty-five cases of non-union, so that it would appear that weakness cannot account for the occurrence. It is, however, pretty evident that the case has depended more on the want of proper measures being employed; and he contended that the short splints were ill calculated to produce the effect desired.

Mr. A. is now acquainted with *eighteen cases* of non-union,* in which the method he recommends, *pressure and rest, has been adopted with success;* but it appears there are excep-

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* Most of these cases have existed six months; one nine, one ten, one eleven, and two fourteen months: sixteen of these cases were under his own care; and *none* that were so, were under treatment more than *ten* weeks, and *by far the greater number* not more, and several less than, *a month.* He has only known *two* cases of failure, the present case being one. Of twenty-four other cases he has *seen*, but not *treated*, in only *one* case has bony union been effected, and *that* after several months' suffering.

tions, and those of great importance to this success, viz. where a preternatural capsule has formed; and this may be suspected where there is great mobility of the fractured ends. In all cases, after a short (if unsuccessful) trial of his method, he recommends cutting down upon and removing with the knife any ligamentous matter with which the bones may be covered, and then very carefully washing the ends of the bones with some stimulating wash; this was indeed what Mr. Green had intended to do in the above case, but owing to the difficulties presented, he was unable to accomplish his object. It will afterwards be indispensable that great care be used in the mechanical contrivances, and he would submit these important considerations not only to the Society, but the profession at large, whether where preternatural joints have formed, the removal of the adventitious matters, the careful stimulation of the ends of the fracture, and judicious mechanical contrivances, will not curet hese hitherto unfortunate cases.

From the London Medical Gazette.

VARICOSE ARTERIES.

We copy the following case from the *Glasgow Medical Journal*, the first number of which has just appeared, and which, from the zeal and acquirements of its editor, Mr. Mackenzie, and the ample opportunities for observation and experience possessed by the profession in the mercantile capital of Scotland, we have reason to expect, will prove an important addition to medical literature.

We shall subjoin the case in the words of Dr. Maclachlan, to whom it occurred, and then offer some remarks.

"Having caused that side of the head to be shaved, the better to observe the nature of the tumour, it presented the following appearances:—Soft, puffy, pulsating, and somewhat elastic swellings of a varicose appearance were found to occupy the course of the temporal, posterior auris, and occipital arteries and their principal branches, each branch terminating by a tortuous extremity. These swellings could be made partly to disappear on pressure, but on its removal they speedily regained their former volume. They pulsated throughout their whole extent, and the pulsations were synchronous with those of the heart. By pressing on the common carotid, the pulsations ceased all along the swellings; and, by intercepting the flow of blood through the temporal or posterior auris, the throb was interrupted in corresponding parts of the tumour. They were not painful on being handled, but he complained much of the torture he had experienced for the last two months, from the throbbing, which often deprived him of rest for nights together, and, as he said, made his existence miserable to him. The integuments covering the swellings were of their natural colour; only at those points which were most prominent, they had a slightly bluish-red tinge.

"This *arborescent* tumour commenced in front of the ear, immediately over the zygoma, and quickly swelling out, it became of the size of a split lemon, lying transversely over the ear. It sent a process forwards on the forehead, communicating by a tortuous extremity with the supraorbitary twig from the internal carotid; a large process upwards to the crown of the head; and backwards, the main body of the tumour communicated with the puffy swellings of the posterior auris and occipitalis, which latter vessels gave a varicose feeling to the scalp over the left side of the occiput.

"The largest and most prominent part of the tumour was immediately over the ear: at this point, the throbbing was very violent, and the integuments being very thin and rather pointing, it threatened ere long to burst.

"The history he gave of his disease was the following:—About ten years previously he had the temporal artery opened for an attack of ophthalmia. A small aneurismal tumour formed at the point of incision, for the cure of which the artery was cut across, lower down; but this not succeeding, the vessel was again exposed and a ligature applied. The little tumour disappeared, he says, only for a time; on its return it was but small, gave him no uneasiness, and although he served as a soldier for five years afterwards, he never complained of it to his surgeon.

"This disease seemed to me different from any kind of aneurism by anastomosis that I had either seen or read of. It evidently followed the ramifications of particular arteries, for, by pressure being made on a particular vessel, a corresponding portion of the tumour became flaccid and pulseless, showing distinctly that no free intercourse by means of cells existed in it.

"I proposed the trial of pressure: he said it had already been employed, and that it gave him so much pain that he would not again submit to it. He urged me at once to proceed to tie the carotid artery, as he was informed that that was the only means by which the disease could be effectually cured. I then explained to him the possibility of taking up the vessels singly; and that, should we fail, it was then in our power to tie the common carotid. He agreed—and with the assistance of Professor Towers and Dr. Anderson, I began by laying bare the temporal artery as it emerges from the parotid gland; but on dividing the fascia-like substance which kept it in situ, it shot forth through the opening in the form of a loop, in caliber larger than a goose quill; thinner in its coats, and, if possible, more diaphanous than a vein; and thrilling violently at each pulsation. A ligature was applied to this loop; the wound was brought together with adhesive plaster, and, for additional security, a firm compress and bandage were applied. It was now evident that the vessel was diseased at the point of ligature, and the propriety of tying the common carotid hence became obvious. Pulsation had,

however, ceased in the anterior and central portions of the tumour, which felt flaccid and doughy, showing that this plan of treatment would, in all probability, have been successful, so far as the vessels of the scalp, at least, were concerned, could the state of the arteries have been trusted to.

"Next day, the common carotid was tied, in the presence, and with the concurrence of Professors Burns and Towers, Drs. King and Anderson. An incision, about two inches and a half in length, was made along the inner edge of the sterno-cleido-mastoid muscle, commencing at the lower edge of the thyroid cartilage, and extending downward to within half an inch of the sternal extremity of the clavicle. A large branch of the exterior jugular vein ran across the line of incision, but by carefully cutting through the fascia-like platysma myoides, the vessel was easily drawn aside along with that muscle. The sterno-cleido-mastoideus was now seen forming the outer margin of the wound, and the omo-hyoideus crossing it superiorly. The dissection was cautiously carried deeper, until the descendens noni was seen over the sheath of the vessels. The artery and par vagum were now distinctly in view, but the internal jugular vein, which frequently gives much trouble during this operation, did not at all appear. The sheath was opened by cautiously scratching with the point of the scissors between the carotid and par vagum, which nerve was carefully drawn aside. A blunt aneurismal needle, armed with a very fine silk ligature, was now introduced, and passed with ease, from without inwards, under the vessel. The ligature being tied, the ends were cut short, and the artery left undivided. The wound was brought together with sticking plaster, and a light compress and bandage applied. He did not lose above a spoonful of blood, and his pulse, immediately after the operation, was 78, and of good strength. Immediately on tying the vessel, the varicose tumours of the head became devoid of pulsation and felt flaccid, although their prominence was but little diminished.

"In the evening he felt his neck rather stiff —had slight headach, seated principally under the *right* temple. Took some food with relish. Pulse 84. Skin rather hot.

11th July.—He passed a good night. Wound free from pain. Pulse 92. But in the course of the forenoon he was seized with severe pain of chest, particularly in the right side. Pulse 120, of moderate strength. Skin hot. Tongue white. No stool. *V. S. at two bleedings to 70 oz.; saline purgatives; a blister; blood first drawn much buffed.*

"12th.—A bad night. Pain of chest easier, but breathing much oppressed, from a sense of weight over the chest. Pulse 108, soft. Skin nearly natural. Two copious stools. Wound feels quite easy. *Tinct. digit. and anodyne at bed time.*

"13th.—A good night, having slept for five hours. Respiration and sense of oppression as yesterday. Towards the afternoon complained of pain in the region of the liver, increased on pressure. Pulse 116, rather full. No stool. *V. S. to 24 oz.; castor oil; turpentine enema; warm fomentations; anodyne at bed time.*

"14th.—Dozed during the whole night, and now mutters almost constantly, but he is quite collected when spoken to. Said the pain of liver was easier. Respiration much oppressed. Pulse 144, feeble. Perspires copiously. No fæces passed with the enema. He became gradually worse, and died at 5 P. M.

"*Dissection*, fifty hours after death, in presence of Dr. Anderson and several medical gentlemen of Paisley, to which town the body had been removed. The weather being very hot, putrefaction had made considerable progress. The viscera of the abdomen appeared healthy. The intestines were much distended with flatus, devoid of fæces, and blanched.

"In the chest, some straw coloured puriform matter was found in the anterior mediastinum: about a pint of thick grayish mucopurulent matter in the right cavity of the pleura, and a small quantity of bloody extravasation into the left. The pericardium was unusually devoid of fluid—the heart large and flaccid.

"The wound, which had adhered throughout its whole extent by the first intention, had partially re-opened from putrefaction. The carotid, the par vagum, and jugular vein appeared as if they never had been disturbed, nor was there the least appearance of pus around the ligature. On slitting up the artery, and cutting through the ligature at the same time, (the ligatured portion having been previously removed from the body,) small but soft clots were found above and below the ligature, and the artery remained puckered from the recent deposition of lymph. Its inner coats were divided as with a knife, while its external was found dense, strong, and entire. Below the ligature, the inner coat of the artery was of a vermilion red colour, even that of the thoracic aorta bore equal marks of inflammation, but at the bifurcation it was of its natural aspect; that portion also of the aortic arch nearer the heart than the coming off of the left carotid was healthy. The carotid in the neck was of its usual size, strength, and thickness; but on examining its branches on the head, they were found to have degenerated into dilated tubes of extreme thinness and transparency; which, apparently, yielding to the impetus of the blood, had become elongated, contorted, and ultimately convoluted on themselves, so as to form, by this species of doubling, the tumours which constituted this singular disease. These tumours felt like placenta, and to the eye, the larger portion immediately over the ear looked precisely like a bundle of earth worms coiled together.

"I regret that from the peculiar circumstances under which this inspection was obtained, I had not an opportunity of examining, more at leisure, this very unusual disease of the arterial system, or even of ascertaining the

exact point at which the disorganization commenced; whether the artery became gradually thinner, or whether the disease began suddenly; whether in the diseased portions the three coats existed, or the dense, but thin external one only remained; whether the branches of the internal carotid were similarly affected with the external, and thus giving rise to the epileptic fits to which he had recently become subject: these points unfortunately must be left to conjecture.

"I have been at some pains in searching through books for analogous cases, but Pelletan is the only author, as far as I know, who has distinctly described this disease. In his *Clinique Chirurgicale*, tome ii. two cases are given, which coincide in every particular with the one here detailed. One of these only, a girl 18 years of age, he had an opportunity of treating. Compression was first tried, but the patient could not bear it. He then tied the temporal artery: this promised to be successful, as far as the portion of the tumour supplied by that vessel was concerned, when unexpectedly the patient died, in consequence of an 'indigestion.' He has fortunately favoured us with plates of this case, which are of great assistance in elucidating this subject, for he has said but little pathologically of the nature of the disease. He speaks merely of dilatation, but it is evident from plate ii. fig. 2, in which the convolutions of the arteries of the scalp are given, on dissection, that the view above advanced, viz. the doubling of the dilated vessel on itself, as the cause of the tumour, is a correct one. Boyer,* also, who saw this case, and has given the dissection more at length, says, in speaking of the structure of the tumour—"Toutes les artères comprises dans la tumeur, au dessous du tissu donc nous venons de parler, étaient dilatées, flexueuses, bosselées, ici très larges, là très étroites, pleines de sang caillé, ou d'une humeur blanche et épaisse. L'artère temporale depuis son origine, jusque vers le milieu de la tempe, avait éprouvé une simple dilatation ....Plus haut l'artère temporale, et ses diverses branches, étaient bosselées, flexueuses, grosses, et rouges." His remarks on the occipital branches are to the same effect.

"Mr. John Bell describes aneurism by anastomosis, to which the disease under consideration has most affinity, to be 'a congeries of active arteries absorbing veins and intermediate cells.' Now, in the tumour which I have attempted to describe, there were no cells, no parenchyma as in the spleen, the bulk of the tumour was formed almost entirely by convoluted dilated arterial *trunks*, the veins being but little changed from their healthy state. These arteries did not appear to communicate more freely than by their ordinary inosculations; and in the less prominent parts of the swelling, they had more of the appearance of the contorted vessels of the gravid uterus, as represented in Tiedeman's beautiful plate, than any other anatomical comparison I can give.

* Traité des Mal. Chir. tome ii. p. 293.

Mr. Abernethy* evidently alludes to this disease when he says, while speaking of nævus, 'for this preternatural enlargement of vessels is not always cutaneous. I have seen it occupying the whole substance of the cheek, neither appearing beneath the skin nor the membrane of the mouth. I have seen it in the orbit,' &c. The cases reported by Messrs. Travers and Dalrymple, in the *London Med. Chir. Trans.* vol. ii. and vi. in which the carotid artery was tied for pulsating tumours of the orbit, appear to have been of this description.

"I have made these remarks and extracts because I conceive there exists a pulsating tumour composed entirely of dilated and convoluted arteries, whose inosculations and interlacements are not more numerous than usual, only they become more apparent from their increased size. That this tumour may occupy a great extent of surface, such as the side of the head, the neck, or arm, from its following in a continuous manner the course of the arteries. That the term aneurism by anastomosis is not very applicable to it; and that from the advanced age of many of the persons in whom this disease has been met with, its congenital nature is more than doubtful, although Boyer, Pelletan, and others are of this opinion. Whether, in the case of Maclure, the vessels were *perfectly* sound at the period of opening the temporal ratery, may admit a doubt. The difficulty of curing the small aneurismal tumour favours this doubt: yet there certainly existed no obvious trace of enlargement of these vessels to lead to this conclusion. In explanation of this remark it may be necessary to state that the artery was opened by myself. The opening of the temporal artery, however, probably operated as an exciting cause on vessels already disposed to disease."

The above case is very interesting, more especially at the present moment, in connexion with that which was operated upon by Mr. Wardrop some little time ago†—and which was recently the subject of a post mortem examination at the Middlesex Hospital. These two cases, with that related by Pelletan in his *Clinique Chirurgicale*, are instances of the same diseased state, consisting of the dilatation of one or more branches of an arterial trunk, not in any respect like that of aneurism, or limited to one point of the vessel, but occupying the *whole extent* of a branch, or all the branches of one trunk. It resembles, in this respect, the diseased condition of the venous system constituting varicose veins, and also in the following circumstances, that the artery or arteries, as they dilate, progressively lengthen and form convolutions coiling upon themselves, and presenting externally an irregular tumour, not unlike (with the exception of pulsation) that of a varicose vein. This resemblance is such, and the appearance of an artery so diseased, with reference to that of a healthy

* Surgical Works, vol. ii. p. 225.

† Vide Journal of Foreign Medicine for February, p. 152.

artery, is so analogous to that of a varicose vein to a healthy vein, that we have been led to apply the term VARICOSE ARTERY, to designate the disease in question: a name which seems to us nearly unexceptionable, being sufficiently characteristic, and conveying a very definite and intelligible idea of the nature of the affection in contradistinction to that of "pulsating tumour," which has been applied to it.* As to the difference of varicose artery from what has been described as aneurism by anastomosis, the former is a disease seated in the middle-sized trunks, and in the branches of the arterial system, the latter is a disease of its capillary extremities; what the one disease consists in is evident to the senses, and has been the subject of examination; what constitutes the other we are ignorant, or at least it is still a matter merely of surmise.

In regard to the treatment of varicose arteries, we have mentioned in what respect, and how essentially, this disease differs from aneurism, properly so called, and that by anastomosis; it is, therefore, not to be wondered at that the principles of treatment adopted in these should neither of them be found quite applicable. We have here no single sac, where, upon tying the vessel supplying it, the blood contained therein stagnates and coagulates, and the artery becomes obliterated at *this* point. On the other hand, we have an artery or arteries, dilated for a considerable extent of their course, where there is no distinct sac and no stagnation of blood, but where this fluid is constantly circulating, and where the only effect of the application of a ligature to the trunk supplying the diseased branches, is to interrupt for a time the circulation through them, but where no blood remaining in them to coagulate, no permanent obstacle to the circulation is formed; and the arteries, therefore, again become filled, and the disease resumes its activity so soon as the collateral circulation is established. With regard to excision of the diseased artery, there can be no doubt that this would be the most effectual mode of treatment, but it is obviously one which can seldom be applicable—from the great extent to which the disease has proceeded before relief is sought—from the few situations in which it would be practicable,—and, what is of still greater importance, from the difficulty, if not the impossibility, of determining where the diseased condition commences or terminates. In Pelletan's case, when he cut down upon the trunk of the temporal artery at the zygoma, with a view of tying it, and of course with no idea that it was otherwise than healthy, he distinctly states that he found it greatly dilated at this point; which circumstance is given by him as an apology for his having pierced it with the aneurism needle. It will be seen that Dr. Maclachlan likewise, unexpectedly, found the trunk of the temporal artery, at this point, to participate in the morbid dilatation; and it is not clear to us that, even in the case of Nowlan, the trunk of the temporal artery was healthy, both from what occurred on the attempt at operation at this point, from the farther progress of the case, and from the appearances on dissection. It will be evident that the difficulty of previously ascertaining the real condition of the main *branch* in the vicinity of the disease, presents an equal objection to the treatment by ligature of the vessel which gives off the dilated branches.

These remarks, however, do not apply to the main *trunk* at a greater distance from the disease, as for instance to the carotid, which was found to be healthy in the cases of Mr. Wardrop and Dr. Maclachlan; but we have already given other reasons for not anticipating a favourable result from a ligature applied to it.

* The term varicose was applied to a vein merely from appearances, and without reference to the condition of its coat.

From the Medico-Chirurgical Review.

Medico-Chirurgical Transactions.

REMARKABLE FUNGOUS ERUPTION CURABLE BY MERCURY. By Mr. WALLACE.

The unsightly disease which forms the subject of this communication appears to be much more frequent in the Sister Island than here. Mr. Wallace, who is attached to an institution for cutaneous diseases in Dublin, ventures to give it the name of morula, from morus, a mulberry. This term marks its most prominent feature—"a fungus of a rounded and granulated form." Although its appearances are regular and peculiar, it has not previously been described. Its growth is somewhat similar to that of the yaws; but there are differences in other respects, which forbid its classification with that disease. Our author has not had occasion to see the eruption, except among hospital patients—and it is curious that the majority of the individuals were either males or females, who got their livelihood by traffic in old clothes, rags, and similar merchandize. It has frequently been observed, however, by others among the peasantry of Ireland. Mr. W. does not think it has any necessary connexion with syphilis, nor pruriginous affections—nor, in short, with any other disease. On some occasions, there was reason to suspect that it was propagated by immediate contact—but generally it appeared void of contagious character. There is scarcely a part of the body, except the palms of the hands and soles of the feet, upon which Mr. W. has not observed these fungous eruptions.

"They uniformly commence, as far as my observation goes, in minute pimples, which become quickly covered on their apex by a very small scab, upon the removal of which may be observed the germ of the future fungus, consisting of a single granulation, and so minute as to require for its discovery the assistance of a lens. At this period the spot is itchy, and is surrounded by a slight erythematous redness. Its size gradually but pro

gressively increases. In the course of some days, a scab of several lines in breadth, of a brownish yellow colour, and considerably elevated, will be found to cover a fungus of a rounded figure and granulated surface, of a yellowish red colour, sore to the touch, and surrounded by a slight livid redness. The size to which these spots are capable of increasing as fungi is, I believe, limited. I have never observed them larger than about one inch and a quarter in diameter, and I have generally remarked that when the spot acquired about an inch in diameter, the action of the vessels of the part changed, and the fungus becoming absorbed, an ulcer was produced. If credit could be given to the observation and reports of the patients themselves, it would appear that many of the fungi, upon arriving at a certain magnitude, shrink and fade away; but whether a fungus, after it has been once decidedly formed, ever disappears, except by the formation of an ulcer, without the interference of art, is a point upon which I cannot speak decidedly from my own observation."

It is very remarkable that the part on which these fungi have been situated, possesses the power of healing, without the formation of any permanent cicatrix—demonstrating that the fungi grow from the *surface* of the cutis, and that the texture of this covering is not permanently injured. The number of fungi in individuals, varies from one to fifty. The THERAPOEIA of the subject will clearly appear in the following extract.

"In the whole catalogue of maladies which are capable of being cured or relieved by mercury, I do not know any which exhibits the value of this mineral more remarkably than the disease in question. I believe it matters nought whether this valuable agent be employed internally or externally. If internally, whether it be used as an oxide or salt; if externally, whether it be employed in the form of an unguent, vapour, or fluid, for the disease immediately shrinks, *as soon as the slightest mercurial action in the system is manifested.* I generally retain the patients under care five or six weeks, and use the remedy to such an extent as to cause its gentle but marked influence on the system; and the form in which I employ it is varied according to the peculiar circumstances or convenience of each case."

From the Medico-Chirurgical Review.

ON DISLOCATIONS OF THE VERTEBRÆ. By W. LAWRENCE, F. R. S.

[*Medico Chirurgical Transactions.*]

Some of our best surgical authorities maintain that, with the exception of the first and second bones of the neck, complete dislocations of the vertebræ, without fracture, are nearly impossible. Boyer, Delpech, Sir Astley Cooper, may be cited on this side of the question. Other surgeons (and even physicians) have affirmed, that the said bones may be luxated. Rust says, that even the lumbar and dorsal vertebræ may be dislocated—and German research has pointed out several recorded cases of this kind—but, whether true or false, is another question. One case Rust mentions as having been treated by himself. "The injury was produced by a severe fall on the head. The neck was bent completely to the right side, the upper extremities being paralyzed, attended with hiccup and convulsions. Replacement was immediately attempted, and succeeded. I made the patient sit on the ground, and had the head drawn straight upwards by a strong assistant. The patient got well under the employment of cold locally." Mr. Bell mentions a case of complete dislocation between the last dorsal and first lumbar vertebræ, with entire division of the spinal marrow—but a small portion of bone was broken off.

"The greater mobility (says Mr. Lawrence) of the individual bones, the comparative smallness of their bodies, and the obliquity of the articular processes, point out the cervical vertebræ as those most likely to be luxated; at the same time, the form of the neck, and its connexion with the head, are favourable to the application of such violence as may cause luxation. Hence not only does dislocation of the atlas occasionally occur, but we have also instances of luxated articular processes in the case of the five inferior cervical vertebræ. Baron Boyer even considers that this may happen without external violence, and that the inferior articular process of a cervical vertebra may be carried in front of the superior articular process of the vertebra below it, by a sudden and forcible rotation of the head and neck towards the opposite side. He says that, 'Desault mentioned in his lectures the case of an advocate, who met with this kind of dislocation, by turning his head suddenly round to see who was coming in at a door situated behind his seat. Chopart also showed us a young man, 24 years old, in whom a similar accident had occurred, in consequence of an extreme rotation of the head, leaving the head permanently inclined upon the left shoulder.'"

Sir Astley Cooper never saw an instance of the dislocation without fracture, but does not deny its possibility. In the anatomical museum of Bartholomew's Hospital, there are some specimens of this accident; but we proceed to Mr. Lawrence's own cases.

Case 1. C. B. aged 22, was brought into Bartholomew's Hospital on the 8th January, 1827. He had slipped while carrying a heavy barrel, and fell with the weight resting on the head and upper part of the back. He was instantly deprived of sensibility and motion in the trunk and limbs. In this state he was carried into hospital, all below the neck paralyzed, except the diaphragm. The chest was motionless—pulse weak—body cold—priapism. No irregularity was perceptible in the line of the spinous processes. He lived till the morning of the 12th, viz. better than three days, when he expired, apparently from interruption of the respiratory process.

Dissection. No external displacement could be detected in the dead body. But the fol-

lowing examination showed the nature of the injury.

"After cutting away the muscles from the back of the spine, the cartilaginous surfaces of the superior articular processes of the fifth cervical vertebra came into view: they were exposed in consequence of the inferior processes of the fourth vertebra having been completely dislocated forwards, and remaining fixed in their unnatural position. The yellow ligaments connecting the laminæ of the two vertebræ (ligamenta subflava) were torn through, and the bifid apex of the fourth spinous process lay in close contact with the basis of the fifth. On the front of the column an unusual projection was observed, but the anterior longitudinal ligamentous expansion was entire. The body of the fourth was completely detached from that of the fifth vertebra, the connecting fibro-cartilage being torn through, and the body of the former projecting by its whole depth in front of the latter. In consequence of this displacement, the antero-posterior diameter of the vertebral canal is lessened by about one-third. The section of the bone was not made till some days after death, so that the recent state of the spinal marrow could not be estimated."

The following curious case happened in the practice of Mr. Wigan, and the preparation was shown to the Society with that of the former case.

Case 2. A child, at the age of five or seven years became affected with an illness supposed to be hydrocephalus, and, after some time, a swelling took place on the side of the neck, containing obviously a fluid, which increased to a considerable size. Pressure on this affected the brain, and produced coma. It was, therefore, supposed that a communication existed between the fluid in the tumour and that in the head. After a long continuance, the tumour disappeared, together with the symptoms of the supposed hydrocephalus. There was no interruption or diminution of sensation or motion at any time, and the child became active and lively. After a time, disease came on in the lumbar vertebræ, attended with bending forwards of the spine, and the formation of a large lumbar abscess, under which the little patient sunk at the age of 12 years.

The head was examined in hot weather, and the brain had become so soft that the changes produced in it by disease could not be ascertained. Mr. Wigan brought Mr. Lawrence the base of the skull, and they were surprised to see a considerable bony prominence standing up in the right side and front of the foramen magnum. This projection was smoothly covered by the dura mater, and proved to be the dentiform process of the second vertebra. After maceration, they found an extensive displacement of the occiput, atlas, and axis, these bones being firmly consolidated in their new relative positions by bony anchylosis of several articulations. The atlas was partially dislocated towards the left; and, at the same time, thrown a little forwards and upwards—hence the right and posterior part of its bony ring intercepted a considerable portion of the spinal canal.

"The middle anterior protuberance now corresponds to the left side of the basilar process; the extremity of the left transverse process projects three quarters of an inch beyond those of the two following vertebræ, while the right transverse processes of those vertebræ project one quarter of an inch beyond the corresponding one of the atlas. A considerable part of the right side of this bone has been destroyed by absorption: that is, the surfaces by which it is articulated to the occiput and atlas, a part of the transverse process, and that groove on which the right vertebral artery rested. The axis is completely dislocated from the atlas and occiput to the right, so that its left portion intercepts about one-third of the spinal canal, and the dentiform process projects by its whole length, into the cavity of the skull at the anterior part of the foramen magnum, close to the right anterior condyloid foramen."

The state of parts cannot, indeed, be well understood without seeing the preparation or the drawing; but it is astonishing, says Mr. L. that the immediate pressure of the bony projection on the under surface of the medulla oblongata, caused no paralytic affection—"even when we allow for the very gradual manner in which it must have been produced." Mr. Lawrence will find, on searching the records of pathological facts, that this "gradual manner" of encroachment on vital organs is every thing. We see the brain itself reduced almost to a shell by the pressure of collected water in the ventricles, with scarcely a diminution of the physical or intellectual functions of the sensorium—why then should we wonder that the medulla oblongata accommodated itself to the slow growth of a bony projection in its neighbourhood?

In some interesting observations on diseases of the cervical vertebræ, Mr. Lawrence quotes a passage from a paper of Professor Rust, of Vienna, as published first in a German Journal, and afterwards enlarged in his work on Diseases of the Joints, where he states, that he saw thirteen cases of the complaint.

"Pain in the neck, becoming more severe at night, or in swallowing a large mouthful, or drawing a deep breath, is the first symptom. This pain affects one side of the neck, especially when the head is moved towards the shoulder; it extends from the larynx towards the nape, and often to the scapula of the pained side. No external alteration is perceptible; but firm pressure on the region of the first and second vertebræ produces considerable pain, and thus points out the seat of disease. The difficulty of swallowing and breathing, and hoarseness increase, alternating with pain in the neck, which seems to fix about the back of the head, and becomes intolerable on moving that part. The head sinks towards one shoulder, the face being turned a little down, for in general the articulations are affected on

one side only, and that was the left in seven out of nine examinations after death. If both sides are affected the head will incline directly forwards. In this state things continue for several weeks or months; and before worse symptoms come on, there is often apparent improvement, freer motion, and more natural situation of the head. But the uneasiness in speaking and swallowing returns, the pain becomes more severe and extensive, the head falls a little backwards and sinks towards the opposite side. The patient feels as if the head were too heavy, and he carefully supports it with his hands, when he moves from the sitting to the lying position, or vice versâ. This may be considered a pathognomonic symptom of the affection. Another symptom, which at this period shows the true nature of the disease, is a peculiar expression of pain in the countenance, which, combined with the position and stiffness of the head, constitutes so characteristic an assemblage of appearances, that it is enough to have seen it once, in order to recognize it again immediately. This look of the patient, which Rust has endeavoured to represent in an engraving, consists especially in a general alteration of the features, with heavy motion of the eyes, and a dull melancholy expression of internal painful sensations. More active indications of severe suffering are observed whenever the head is moved.

"In the further progress of the case, noise in the head, deafness, giddiness, cramps and convulsions, partial paralysis, particularly of the upper limbs, loss of voice, purulent expectoration, and hectic symptoms supervene. Generally, no external change is observable, either in the neck or in the nape; and Rust observed, in one case only, swelling of the affected side, which broke and left fistulous ulcers. But the slightest pressure in the region of the three upper vertebræ is acutely painful, and sometimes in the advanced period of the disease a grating of rough surfaces is distinctly perceptible when the head is turned. The patient may continue for months in this helpless and painful state, and then dies, either from exhaustion and debility, or, which is more frequent, suddenly and unexpectedly."

Such is Rust's description of a disease which Mr. Lawrence thinks we can have no hesitation in regarding as originally ulceration of the cartilages, proceeding to destruction of the ligaments, and caries of the bones, with extension of disease, in various shapes and degrees, to the neighbouring important parts. Several allusions are made to cases observed by Reil, Bell, and others, of this affection. Rust thinks the complaint must be almost always fatal—at least it proved so in nearly all his own cases.*

In regard to the treatment, it is evident that the principles which are applicable to disease seated in other parts of the vertebral column, ought here to be put in force. On account of the proximity of great and important organs in this last disease, it is a matter of great consequence to lessen the degree and extent of inflammation, and thus limit the disorder in its early state. Local depletion and the other antiphlogistic plans—perfect quietude—and counter-irritation, are the principal means, by which we can hope to control this formidable complaint, when it is capable of control, or within the range of cure.

From the Edinburgh Medical and Surgical Journal.

REMARKS ON STRUMOUS CORNEITIS AND IRITIS, WITH CASES. By James Guthrie, Esq. Surgeon, Kilmarnock.

The ophthalmia to which I have given the above designation, occurs most frequently in girls of a strumous habit, about the age of fourteen, in whom the menses have not appeared.

The inflammation is slow and insidious in its progress, marked by a very slight redness of the conjunctiva, and the greatest possible degree of intolerance. The vessels on the sclerotica are seen on close inspection very minutely injected, and running in straight lines to the margin of the cornea, where they form the well known appearance of a vascular zone. The cornea soon becomes opaque; the iris contracted; and the aqueous humour muddy. A profuse gush of scalding tears follows the opening of the eye. Though the sensibility is morbidly increased, the patient rarely complains of pain either in the eye or head, the aversion to light being the principal distress.

The constitutional symptoms run very high; the pulse becomes quick; the appetite is lost; and the bowels constipated or otherwise deranged; skin harsh and dry; and the whole system in a high state of irritation.

I have not been able to detect any very evident exciting cause. The disease occurs most frequently in the months of April, May, and June; and invariably in those of a strumous irritable habit. Girls are most liable to it, particularly about the age of fourteen. As an exception to this remark, I lately saw a well marked case in a woman forty years of age, in whom the menses were suppressed. The sight was irrecoverably lost before the patient consulted me. The case ended in a leucomatous state of the corneal texture, with opaque capsule, to which the pupillary margin of the iris adhered by a pencil of lymph.

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* Although we do not profess to be such "learned Thebans" as the author of this paper, yet we cannot but wonder that the work of Johannes Baptista Paletta,* the first volume of which was published in 1820, should have escaped his vigilant research. The 15th chapter of that work is dedicated to fractures and dislocations of the vertebræ, in which are recorded cases of every description, from the atlas down to the last lumbar vertebra. In the next Essay which Mr. Lawrence favours us with, he may draw on this work for very ample materials indeed.

* *Exercitationes Pathologicæ*, 2 *vols.* 1820–1826. *Milan and Paris.*

The inflammation has its seat principally in the cornea and iris, both of which are affected simultaneously; and where the whole of the morbid action is expended, the other textures no doubt participate in the inflammation, particularly the choroid; and although the evidence on this point is rather deficient, its existence, I think, is indisputable.

The disease is extremely obstinate, running a course of from two to three months, yet, when well managed, rarely produces permanent injury to vision. The cornea, though apparently disorganized, resumes its transparency, and the iris its functions, under the influence of those remedies which subdue the inflammation and photophobia. But when allowed to run on uncontrolled, it terminates in coadhesion of the iris and cornea; contricted pupil; opaque capsule, with partial adhesion thereto of the pupillary margin of the iris. If the anterior chamber is preserved, a leucomatous state of the cornea is a frequent result.

Treatment. The mild, indolent character of the disease renders it more difficult to subdue than a fixed and vigorous action; and the practitioner is insensibly betrayed into irresolution, by the seeming inertness of the disease and the obvious delicacy of the patient. In this kind of ophthalmia I have never found the detraction of blood, either local or general, of any avail. The cases in which it was employed turned out the most obstinate and intractable. Leeches are not much less debilitating than the lancet, owing perhaps to the local irritation thereby induced. Syncope, in such cases, from dread of the lancet, is the best substitute for the detraction of blood. The principle of treatment indicated in such cases is to lessen the irritability of the system, without materially depressing its power. This object is most effectually obtained by the administration of emetics, which should be repeated every second or third day for the first week. We must, at the same time, exhibit ten or twelve grains of Dover's powder every night, to be followed up next morning by a small dose of sulphate of magnesia, to regulate the bowels and prevent the constipating effects of the opium.

This treatment will soon give a turn to the inflammation, and reduce the morbid irritability. This being accomplished, mercury must be had recourse to, and introduced into the system, so as to disturb it in the least possible degree. Profuse salivation is not wanted. Its effects are often very decisive long before the gums become affected. Mercury in this disease is a remedy of great value, and will seldom disappoint us, if not too early employed. I erred myself at one time in this particular. Until the irritability of the system is reduced by the means pointed out, mercury is injurious. This fact I have had many opportunities of establishing; but when seasonably employed I know of no remedy competent to the same effects. Blisters are not useful. The benefit expected from them is altogether counterbalanced by the irritation they produce.

Belladonna ranks next in importance to mercury; without it the case could not be brought to a favourable termination. The extract should be thickly painted on the eyebrow and eyelid every night at bed-time. Besides its influence over the pupil, which is very limited for some time, it has a considerable effect in allaying the local irritability.

Stimulating drops and ointments must be discarded altogether during the acute stage, as well as every other doubtful remedy. The only local application from which I have seen any benefit, is the steam of warm water containing laudanum. From this the patient generally derives great relief.

When the inflammation has been considerably reduced, and the intolerance of light removed, a little weak precipitate ointment introduced into the eyes twice a week, will be of great service in restoring the cornea to transparency. Solutions of nitrate of silver, or muriate of mercury, or vinum opii may be occasionally interposed.

In the convalescent state tonics and sea air are required to complete the cure and reestablish the health. Should the disease lapse into a chronic form, a termination which I have occasionally seen, caustic issues superadded to the local treatment will be found successful.

I now proceed to the detail of two cases. I have selected the following as being most illustrative of the foregoing observations.

Case I.—Margaret G. aged 14, of a strumous habit and delicate constitution, has been affected with inflammation in the left eye for a fortnight. The symptoms are the following: Redness of the eyeball apparently trifling; close inspection, however, discovers the vessels on the sclerotica very minutely injected, and running in radii to the margin of the cornea, where they form a zonular appearance. The cornea is hazy, and its serous vessels loaded; iris contracted; intolerance of light excessive; lachrymation, and vision is much impaired. She makes no complaint of pain either in eye or head; pulse small and quick; and the constitutional disturbance very considerable. Menstruation has not commenced.

The following treatment was in the first instance adopted: leeches repeatedly applied to the temple, and a suppurating surface established behind the ear. The bowels being cleared by a purgative, calomel in combination with opium was given twice daily. A solution of nitrate of silver was applied to the eye, and extract of belladonna to the eyelid every night. The above treatment was persevered in for four weeks, without in the least interrupting the progress of the disease. The mercury had in the interval affected the gums, and was given up. The cornea is now rendered opaque, and very much thickened, presenting in one spot a circumscribed deposit of lymph. At this part the cornea has an elevated appearance. Iris extremely contracted and irregular, but with difficulty seen; aqueous humour muddy. The pupil resists the influence of the belladonna; aversion to

light unabated; vision gone. The right eye has taken on the same morbid action. The constitutional disturbance is now so great as to confine the patient to bed. The irritation in the system (I mean its sympathy with the local disease,) appears to play the most important part in keeping up the disease; to subdue which, emetics every second day, Dover's powders in doses of ten grains every night, and half an ounce of Epsom salts every morning, were ordered. The good effects of this treatment soon became apparent. The symptomatic fever was wholly subdued, and the morbid changes in the cornea arrested. At this period mercury was again had recourse to. The amendment was now progressive. The restoration of the cornea to transparency, and the recovery of vision, were rapid and complete beyond all expectation. Red precipitate ointment was interposed to assist the restoration of the cornea.

Case II.—Mary L. aged 13, of a scrofulous habit, has been ill with ophthalmia in the left eye for ten days. The following symptoms were observed. The vessels in the sclerotica minutely injected; a vascular zone beginning to form at the verge of the cornea; pupil extremely contracted; aqueous humour muddy; cornea slightly opaque; vision very dim; aversion to light at present inconsiderable; no pain in eye or head.

The following remedies were actively employed: V. S. ad ℥xij.; nauseating doses of tartrate of antimony; saline purgatives; blister behind the ear, kept running; the steam of warm water containing laudanum to the eye; belladonna to the eyelid; leeches were also repeatedly applied to the temple; and finally, calomel and opium twice daily. Notwithstanding these means, the inflammation continued its progress; and in the course of four or five weeks the cornea was rendered completely opaque. The pupil cannot be seen; vision entirely gone; intolerance of light excessive; symptomatic fever very high. The right eye has become affected. Mercurial inunction was superadded to the calomel and opium, and in eight days salivation was established. This, so anxiously looked for, entirely disappointed me. At this period the last affected eye presented a most alarming appearance. The cornea at its junction with the sclerotica was of an intense red colour. This appearance extended some lines over the corneal margin. The cornea was very much thickened, and red vessels were seen ramifying over its entire surface. The iris was entirely obscured; aversion to light urgent; vision in both eyes was quite extinguished. Sarsaparilla was substituted for the mercury. And to subdue the irritability of the system, emetics, Dover's powder, and saline laxatives, were ordered, as in the former case.

These means very soon interrupted the march of the disease. As soon as this was accomplished I again commenced a mercurial course; and although several days elapsed before the constitutional effects of the mineral appeared, its effects were most decisive. The improvement continued progressive. Red precipitate ointment and vin. opii were applied to the eyes; and in a short time the cornea was restored to transparency, and a perfect state of vision obtained.

When the acute symptoms began to yield, the conjunctiva, which had all along taken so little share in the inflammation, became highly vascular. There remained a faint appearance of the vascular zone at the verge of the cornea for a considerable time, which, however, gradually disappeared.

Having met with this case not long after the first, I had still to learn the obstinacy of the disease under the ordinary treatment.

When this case presented itself, I resolved on pushing two of the most powerful remedies to their fullest extent; and what was the result? The loss of blood, by reducing the system, rendered the case almost irremediable. The too early use of mercury, on the other hand, hurried on the disease, and increased the irritation to an alarming extent.

From the Edinburgh Medical and Surgical Journal.

SUGGESTIONS FOR THE IMPROVEMENT OF THE FEMALE CATHETER.

By William F. Montgomery, A. M., M. B., Professor of Midwifery in the King and Queen's College of Physicians in Ireland.

The introduction of a catheter into the female bladder, and the evacuation of the urine by its means, is confessedly a very simple operation; but as it is also an operation from its nature very revolting to female delicacy, and regarded by women in general as much more simple than it really is, they are apt to be much influenced in their feelings by the neatness and dexterity with which it is performed.

If I had no other reasons than these for the suggestions which I have to propose for the adoption of the profession, I should consider them fully sufficient to warrant me in so doing. But I am inclined to hope that some consideration of higher importance will be found connected with the alteration in the construction of this instrument, which I have to recommend from experience of its advantages.

The female catheter in general use in this country, has no other provision for preventing the instantaneous flow of the water, as soon as its point enters the bladder, than the insertion of a plug attached to the stilette. This plug is hardly ever fitted with such accuracy, even at first, as to prevent the escape of the urine from the end of the instrument before a vessel can in many instances be placed to receive it. This is a defect of construction which is made a subject of very general complaint, as causing on ordinary occasions a disagreeable inconvenience, and which, under particular circumstances, may be productive not only of very considerable annoyance, but even serious injury to the patient.

To remedy this defect in the first place, and

with other intentions to be afterwards noticed, I wish to propose, instead of the plug, the adaptation of a stopcock, by means of which we are enabled completely to prevent the escape of a drop of urine until we are prepared to receive it.

In cases of retention of urine occurring under circumstances which preclude the possibility of repeated visits from the medical attendant, the use of an instrument so constructed will enable the patient herself or an attendant to let off the contents of the bladder in the intervals of the physician's visits, the instrument having been previously secured in the urethra by passing the tapes of a bandage through the eyes or loops on its sides, and interposing a soft thin cushion, through which the catheter should pass.

I should here observe that it is not necessary that the catheter should be of metal, as the metallic bell containing the stopcock may be securely attached to a portion of the flexible or common gum elastic catheter.

Another inconvenience experienced, even in common cases, is the application of a vessel to receive the water. We cannot always prevail or insist on a patient to assume the position best suited to our purpose. Change of posture may be prevented by pain, or equally by the excessive confusion of shame with which she is overwhelmed at the idea of the operation. Then the vessels usually met with in bed-chambers are, from their height and size, particularly unfit and difficult to apply readily under the extremity of the catheter, and their apposition very apt to be attended with some degree of exposure, if the patient be not placed completely over the edge of the bed. Again, in the removal of such vessels it very constantly happens that some of the urine is spilled into the bed, or that the bed clothes fall into the vessel, in either case causing much discomfort to the patient.

In order to obviate such inconveniences, and to avoid the necessity of having to seek any receiver, I have adapted to the bell of the catheter a silver cap, to which is attached a fine bladder, such as that of a calf or sheep, prepared for the purpose by moistening it a little with oil. An instrument provided with this addition is not in the slightest degree less manageable than when used without it. The bladder lies in the palm of the hand, without in the least interfering with the management of the instrument by the fingers; or the catheter may be first introduced, and the cap afterwards slipped on, without any difficulty or delay. At the same instant the stopcock may be turned, and the urine is discharged into the attached bladder, without further disturbance of the patient; without even the apprehension of exposure on her part; and without her experiencing what, under some circumstances, might be a matter of no small importance, the feeling of cold, either from air admitted in removing the bed-clothes, to allow the introduction of a large vessel, or from the chilling contact of the vessel itself.

The circumstances of a case every day met with in practice, will perhaps best illustrate the advantages to be derived from the use of an instrument so provided. We are called to see a patient with retention of urine, accompanying perhaps the partial paralysis, which is sometimes a consequence of severe labour, or arising from some severe accident, or the effect of fever. We find such a patient lying sunk in the middle of a large bed, totally helpless and incapable of turning on either side, or even of being turned without great disturbance or suffering. In a case such as this, with the patient so situate, if a catheter be introduced, its end is so much depressed towards the bed, that we cannot apply under it any vessel, commonly to be had in the sick room; and in order to make the attempt, the limbs of the patient must be either elevated by an attendant, or considerably separated. Here is incurred the risk of striking the vessel against the end of the catheter and causing pain, or at least irritation; or spilling the fluid, an accident which causes serious inconvenience.

These objections, I think, are completely obviated by using an instrument constructed as I have advised.

I hoped at first that this instrument might be found of service in those cases of incontinence of urine which are caused by sloughing of the neck of the bladder from pressure during labour, but the urine escapes between the catheter and the edges of the aperture; at least it did so in the only case in which I had an opportunity of trying it. But a case might perhaps occur in which the breach would be so small as to be sufficiently commanded by the instrument, though in such cases I fear little can be expected from it. In some other cases of incontinence, however, its use will, I hope, be found peculiarly suitable. Other applications of the contrivance may occur to other practitioners; and an intelligent friend suggests that it might be conveniently used in the operation of injecting the bladder.

It will be found convenient to have the cap perforated with six or eight holes round the end which projects into the attached bladder; that, in case of the bladder lying on and stopping the large aperture, the water may escape by the lateral openings.

From the Medico-Chirurgical Review.

CASES ILLUSTRATIVE OF SOME OF THE APPEARANCES OBSERVABLE AFTER DEATH, *when Dropsical Effusion has been connected with Disease of the Liver.*

By Richard Bright, M.D.

[Reports, &c. from Guy's Hospital.]

"Quum vero a splene aut hepate in hydropem transitus fit, effugiunt non valde."—Hippocrates, *de Affectionibus, lib.* xiv. *cap.* xxiii.

"Neque ignoro, Erasistrato displicuisse hanc curandi viam: morbum enim hunc *jocinoris* putavit: ita illum esse sanandum."—Celsus, *lib.* iii. 21.

"Corrupti jecoris vitio vel splenis acerbus crescit hydrops."—Serenus Samonicus.

The three quotations which we have introduced from three of the most ancient works on medicine, will show at what an early period dropsy was traced to disease of the liver. Erasistratus, like some hobby-horse riders of modern times, wrote a book to prove that dropsy was *always* dependent on hepatic disease; but the remark of Celsus on this doctrine is equally terse and true. "Sed primum, non hujus visceris unius hoc vitium (hydrops) est: nam et liene affecto, et in totius corporis malo habitu fit." Loco citato. We shall not, however, wade through the innumerable speculations which have been entertained as to the nature, causes, or treatment of the different species of dropsy. We shall only remark one or two curious facts; first, that the father of physic recognized certain cases of anasarca which occurred suddenly in robust constitutions, and required blood-letting.—*De Victu Acutorum*, lxii. How far Hippocrates anticipated modern pathologists on this point, it is not necessary to inquire. The second remark is, that Areteus appears first to have noticed hydatid—or rather ovarian dropsy, in which paracentesis was not effectual. This sagacious disciple of Esculapius made a confession, which, though unpalatable to the "march of intellect" in the present day, contains, nevertheless, some truth. He tells us that few have been cured of dropsy—and that those who have been so fortunate as to escape, may thank the gods, rather than the doctors, for their recovery!

But we must come at once to the work before us. In our last number, we gave an analysis of Dr. Bright's first division, in which an attempt was made to prove that many cases of dropsy depended on certain organic changes in the kidneys themselves. The next division relates to the etiology of dropsy, as connected with hepatic disease. Dr. B. sets out by expressing a conviction, that many cases of this effusion are owing to renal, which are set down to the account of hepatic affection—but, at the same time, he entertains no doubt that, "in many other cases, the liver is the real cause of the dropsical effusion, frequently showing most extensive disease, when the kidneys are quite healthy." In fact, it did not escape Dr. Bright's notice—and it cannot escape the notice of his readers, that, in almost every case which he has detailed of *renal* disease, in connexion with dropsy, there was also more or less of disease in the liver. The dissections of Morgagni, Bonetus, and Lieutaud, corroborate the facts disclosed by Dr. Bright, and all these circumstances, taken in connexion, tend to throw a considerable shade of doubt on Dr. Bright's doctrine of the renal origin of dropsy. The same doubt, however, does not apply to the present section of the work under review.

In the preceding section, Dr. B. had often expressed himself thus:—"The liver showed a tendency to granulation"—thus intimating a doubt as to the existence of actual change of structure. Dr. B. explains himself in the following terms.

"The fact is, that the liver in these cases has usually preserved its natural figure; the acute margin has been perfect, and the general size has not been augmented; the peritoneum has been quite transparent, and attached only in the ordinary degree to the viscus; the texture of the liver has neither been unnaturally firm nor morbidly flaccid; but, on examining the surface, it has been evident that the colour was less uniform than in perfect health: the whole was marbled, consisting of very small light spots in a darker ground; but on making a section perpendicular to the surface, though the same general variety of colour has been observed, yet in some parts of the section it has been doubtful whether the darker or the lighter part should be considered as the ground-work: in general, however, by attentive observation, it will be found that, in the centre of the lighter spots, small depressions or openings are visible, and that the darker parts appear to be the connecting medium of the lighter parts, which seem to be the acini of the glandular structure. Although in most cases these appearances scarcely attract attention, yet in other cases they become more obvious, either the white portions becoming larger in proportion, or the whole viscus appearing to have lost a little of its natural pliability, to have become hard, and to break down with a slightly granulated fracture."

In all these cases, Dr. B. observes, "the secretion of the bile is tolerably natural, the gall-bladder being well supplied with bile, of a sufficiently dark yellow colour." We have reason to believe, that much error has arisen respecting the healthy secretion of the liver, because the colour of the bile has appeared natural in the gall-bladder and in the secretions. It should be recollected that it is in the gall-bladder the bile assumes that colour which tinges the fæces—and that only a certain portion of the bile that passes into the intestines has ever been in the gall-bladder. Now the biliary secretion may be much changed, and yet that portion of it which regurgitates into the above mentioned reservoir may there assume the *usual colour*, while greatly deficient in its other qualities. We must not, therefore, be guided entirely by the colour of the motions, but by the smell, and other properties. How often do we find the secretions unbearably fœtid, while their colour is brown, or even yellow? The states of the digestion, the complexion, nay, the urine itself, are all influenced by the state of the biliary organ.

Besides the appearances above described by Dr. Bright, in the livers of dropsical subjects, he has occasionally seen the organ deviating in its consistence from the natural state, "being either too firm or too flaccid," though such changes are doubtless seen where no dropsical effusions obtain. From the prominent place which the renal disease appeared to hold in these cases, our author was induced

to consider the hepatic derangement as secondary or subordinate, "though not impossibly the state of both these organs depends on the same general constitutional affection; and I have sometimes even thought that the tendency to granulation, where it existed, maintained a certain relation, in its progress, to the disease in the kidney." Moreover, the author justly remarks, that there are hepatic derangements, unaccompanied by obvious disease in other organs, which may probably be, with propriety, considered as laying the foundation of dropsical effusions. To a detail of cases of this kind Dr. Bright next proceeds, and we shall follow him.

Case 1. W. Taylor, aged 66, by profession an architectural drawer, but now a pauper, was admitted on the 4th January, 1826. He confessed that he had lived hard, and it was evident that reverses of fortune and disappointed hopes, might have injured his *morale*. For the four preceding months, his appetite had failed, and still more recently his legs began to swell; his abdomen became tumid, and his flesh wasted. His countenance was sallow, conjunctivæ slightly yellow, bowels relaxed, pulse weak, abdomen tender on pressure, especially in the region of the liver—and altogether he had the appearance of being completely broken down. The motions did not seem deficient in bile, nor unnatural in colour; but the urine was loaded with a pink sediment, and was not coagulable by heat. We need not give the details of 16 days' unsuccessful practice. On the 20th January he sat up, and seemed more revived. In the evening he was seized with dyspnœa, and died in the night.

Dissection. No effusion into the cavities of the pleura—very little of the lungs was crepitous; yet they were not hepatized nor tuberculated. They were congested, and loaded with serum—in short, they were œdematous. Heart sound—abdomen contained seven or eight pounds of clear straw-coloured serum—body and limbs œdematous. The intestines unaffected. Liver contracted, and of a morbid structure throughout, apparently from depositions of minute portions of yellow matter. The surface presented a general rough granular feel, the colour being a liver red and yellowish gray. The same structure pervaded the whole of the interior. The liver was, upon the whole, smaller than natural, and broke down easily with a brittle crisp fracture, uneven and granular. The gall-bladder was opaque and thick, containing the usual quantity of bile. The orifice of the ductus communis was contracted into a nipple-like projection, with an orifice not larger than to admit a pin. The gall-bladder contained a deep-coloured viscid bile, and, when emptied, presented, on its internal surface, a number of minute yellow bodies, rather larger than millet-seed, and soft. The pancreas was soft; spleen very small; the kidneys smaller than natural, but perfectly healthy.

In the above case, from the appearances on dissection, Dr. Bright was led to suspect, that part of the structural change in the liver might depend on some deposit from the bile similar to that which obtained on the inner surface of the gall-bladder. Dr. Bostock was, therefore, applied to, for the purpose of chemically examining into this point. Dr. B.'s chemical processes are given, in a letter from that gentleman; but we shall content ourselves with the results.

"From the above observations I think we are warranted in concluding, that the liver which you sent me for examination contained a quantity of a substance nearly resembling cholesterine, the body which forms the basis of the biliary calculi. I do not venture to determine concerning the nature of the connexion which subsisted between this substance and the liver, but I should conjecture that it had been secreted by the arteries of this organ, and deposited in its cellular texture."

Case 2. J. Macdonald, a youth of 15, was admitted on the 21st of June, 1826. He was of weakly constitution, but said he had enjoyed good health till within two months. At that time his legs began to swell, and latterly his abdomen. It was now considerably enlarged, and a tumour could be distinctly felt in the region of the liver. The legs were slightly œdematous—emaciation general—urine scanty, and *not* coagulable. Diuretics and mercurials were given, and some slight improvement ensued; but, about the beginning of September, the boy became evidently worse, and on the 27th of that month he was tapped, when three gallons of straw-coloured serum were drawn off. On the first of October, the tumour of the liver is reported to be felt completely tuberculated. He died exhausted on the 16th October.

Dissection. There were slight marks of peritoneal inflammation, and some flakes of coagulable lymph in the abdominal effusion. The liver was externally tuberculous, of a light yellow colour, with deep fissures on its surface, apparently arising from partial contractions in the substance of the organ, or its adventitious investing membrane. The liver, which was about one third larger than natural, was also increased in density and specific gravity, cutting with considerably more resistance than boiled udder, to which it bore some resemblance. Its whole structure was composed of bright yellow granules, distributed in a transparent pinkish ground, the two parts bearing nearly an equal proportion. There was no appearance of tubercular structure in the organ. The gall-bladder was contracted, containing a small quantity of dirty-looking bile—kidneys rather pale, with irregular vascularity—lungs and heart quite healthy.

Case 3. Thomas Holbeach, aged 60, was admitted on the 12th October, 1825, in a lamentable state of dropsy. His whole body was unwieldy—his legs and thighs greatly swollen, with ill-conditioned ulcers on his shins. He lies propped up in bed, continually moaning. Urine is scanty and rather high-coloured—motions frequently loose, but not very deficient in bile—tongue dry and

brown. He was ordered squills, blue-pill, and opium, with some diuretics; but although he sometimes showed symptoms of amelioration, he sunk exhausted on the 23d November, about five weeks after he came to the hospital.

Dissection. On opening the abdomen a singular appearance presented itself to view, when the water was drawn off. All the viscera stood rigidly raised like rock-work. The liver formed two whitish flesh-coloured masses, the edges thickened and rounded, and the whole surface somewhat tuberculous. Below the liver, to the left, was an irregular mass, purplish in colour. It was found to be a mass of omentum and colon matted together by an adventitious membrane, which appeared to cover the whole. Below this were seen four or five convolutions of intestine perfectly erect and stiff, of a purplish green or livid colour, covered by the same adventitious membrane. These convolutions felt thick, hard, and elastic. The substance of the liver was found hardened throughout, the structure nearly resembling scirrhus, with bands of thickened cellular membrane, like ligamentous membrane pervading every part—in some places forming one third of the whole structure. There were no tubercles in the interior of the organ, which felt nearly as hard as cartilage. There were old adhesions between the liver and diaphragm. The gall-bladder was contracted, and covered by false membrane, and contained bright yellow bile, the ducts being pervious. The coats of the intestines were, in some places, the sixth of an inch in thickness. The kidneys were healthy—the lungs, in some places, œdematous and flabby, but, on the whole, not unhealthy. There was some effusion into the cavities of the thorax and pericardium.

Having thus given three out of the seven cases detailed by our author, in illustration of his subject, we do not deem it necessary to notice any more.

Dr. Bright observes that the foregoing cases present at least three distinct morbid conditions of the liver, all terminating in dropsical effusion into the abdomen. Thus, in one case, (W. Taylor) a distinct morbid deposit, or a conversion of matter had taken place around or in the secreting portion of the organ, which, without interfering with the natural consistence of the liver, rendered its surface rough, and its whole texture deranged and granular.

In another case, (No. 2, Macdonald) both the secreting part and the connecting cellular tissue of the liver had suffered a change of structure nearly in an equal degree, so that the whole viscus was brought to an unusual state of firmness. The acini were enlarged, and the parenchymatous substance was thickened, and brought to a state of semi-cartilaginous hardness, without being drawn into bands.

In a third case, (Holbeach) the diseased state of the cellular membrane seemed to have advanced much further, so that it had formed bands in various directions, not unlike a scirrhous degeneration either in the appearance or the consistency which it assumed. "Yet the secretion in the organ had not been entirely obstructed."

In one case there were no semi-cartilaginous bands of hardened cellular tissue, but the whole organ was changed into globular concretions, harder and more tough than in the natural condition—easily picked out of the cavities in which they were imbedded, and sliding pretty readily over each other, so as to render the whole tough and pliable. In some, there will be found cysts or tubercles—in others a series of abscesses—in short, it would be endless, and moreover useless to enumerate the almost infinite variety of changes which may be seen in diseased livers.

We now proceed to notice Dr. Bright's mode of explaining the way in which the hepatic disease produces the dropsical effusion.

"It appears," says he, "that all those (organic changes) just now described produce very general obstruction to the circulation through the branches of the vena portæ, and become, in this way, the immediate cause of dropsical effusion, independently of any morbid condition which may result to the blood by its not having given off those substances from which it is purified, while the process of secreting bile is carried on in its full extent. It is these general changes in the structure of the liver which give rise to dropsy, more frequently than any of the circumscribed changes,—as tubercles of various kinds, and hydatids occurring imbedded in the substance; for the influence of these, as long as from their situation they make no immediate pressure on the large vessels, is often very small in favouring serous effusion, however much they may wear out the constitution by the irritation they produce."

For a long time we were in the habit of taking this mechanical view of the production of serous effusions in diseases of the liver; but we have given it up, and believe that it is quite erroneous. That mechanical pressure on veins will produce serous effusions or infiltrations, we admit; but, where is the proof that there is any actual obstruction to the mere flow of blood through the vessels of the liver, in diseased conditions of that organ? In many of the dropsical cases, the organ was not enlarged, but rather diminished, and, consequently, could not press on the contiguous vessels returning blood to the heart—in others, the liver was only triflingly enlarged. Yet we frequently see both the liver and spleen enlarged to an amazing size, without any symptom of dropsy. How many tumours do we find developed in the abdomen, and arrive at an immense growth, which must press upon all the neighbouring vessels, yet without dropsy. These facts did not escape the penetration of the illustrious Bichat, who resolutely denied that dropsical effusions in the abdomen and body generally are to be looked upon as resulting from mechanical obstruction to the passage of blood through the liver—an obstruction which, in fact, has never been shown

to exist. But it will be said that Lower tied the cava inferior of a dog, and produced dropsy of the abdomen. This was effecting mechanical obstruction with a vengeance! When Dr. Bright, or any who support his doctrine, show us this obstruction, by injections of the organ, we shall then admit it as the cause of dropsy, but not till then.

It is far more reasonable to conclude that either the causes which produce the liver-disease effect also the dropsical disposition—or, that the altered, and consequently morbid condition of the biliary secretion leads to the serous effusions, by disordering the functions of various organs in the animal economy, including the kidneys, thus vitiating the blood and all other fluids in the body. We have already commented on the fallacy of concluding that bile was healthy if it had the usual colour. The experiments of Dr. Bostock, appended to this section of our author's work, prove that the qualities of the bile were unequivocally deteriorated in the various specimens examined. Thus, in one specimen, upon minute inspection, some portions exhibited a yellow tinge, while others were of a light flesh-colour.

"The flesh-coloured part seemed to consist of a dense substance of a uniform texture, while the yellow part appeared to be composed of a number of irregular spots, which gave the peculiar colour to this part imbedded in the dense substance."

In another specimen, Dr. Bostock observes, "the bile was considerably lighter coloured than natural, less viscid, and had a very nauseous odour. It became rapidly putrid, and was then extremely fœtid." By chemical examination, he found it to contain a substance that might be considered intermediate between albumen and mucus, "while the resinous or proper biliary matter was much more than ordinary."

In a third specimen, besides other changes, Dr. B. observed "a number of black particles diffused through it, which very slowly subsided." In a fourth specimen, the bile was "unusually thick and tenacious, and of nearly a black colour." It was found to contain a large quantity of a mixture of albumen and mucus. In a fifth specimen, the bile contained a considerable number of biliary calculi, from the size of a pea to that of a grain of sand. In a sixth specimen, the fluid would not have been "recognized as bile," had not Dr. Bright informed Dr. Bostock that it was taken from the gall-bladder. Its consistence was like that of serum, but more tenacious—its odour offensive—its colour a bright light orange. It was neither acid nor alkaline.

Now, in many of the cases from which these specimens of vitiated bile were taken, the motions had a nearly natural *colour*, and hence it was concluded that there could be nothing wrong with the function of the liver, whatever might be the degree of organic change. That this is a great error, we may infer from analogy as well as observation. Do the lungs perform their proper function when disorganized? Do the kidneys secrete healthy urine when their structure is altered? Certainly not. And why should we expect healthy bile (whatever may be the colour) from an unsound liver?

In carefully examining the dissections given by our author, we scarcely find a single instance in which the peritoneal surface was not in a diseased state—either covered with false membranes, or showing other unequivocal signs of previous inflammation. This fact at once does away with the theory that the dropsical effusion is the result of mere mechanical obstruction to the flow of the blood through the liver. The fact is, that the pleura, as well as the peritoneum, takes on a morbid condition in these hepatic diseases, and hydrothorax, ascites, and anasarca, are generally combined.

A perusal of the cases brought forward by Dr. Bright, and a careful observation of facts in actual practice, would lead us to conclude that the structure or function of the liver was disordered, when dropsical effusions and waste of flesh appear in an individual not labouring under any organic disease of the heart or lungs, and who has not been recently subjected to those causes which induce an inflammatory dropsy. To this conclusion we would be induced to come, even if the stools were yellow—seeing, as we have done, that in one of the worst specimens of bile examined by Dr. Bostock, the *colour* of that fluid was a "bright light orange." Now, in such a case, if the alvine secretions were found of the same colour as the hepatic, the practitioner would exclaim—"Oh, here is bile as healthy as that of an infant!" Yet Dr. Bostock says, in his letter, that he should not have recognised it chemically as bile, had not Dr. Bright assured him that he took it from a human gall-bladder! Such are the fallacies to which the science of medicine is subject. Every path we tread—every step we take—every indication we act upon, is pregnant with such errors; and the whole practice of medicine, in fact, requires cleansing, as much as did the stable of Augeus.

Tales of error have been hummed into the infant's ear, while rocked in his cradle, or fondled at the breast—they have been engraven on his sensorium and some other parts, at school, by dint of the birch—they have luxuriated into gorgeous forms of classic and philosophic imagery in cloisters and colleges—they have been delivered, ore rotundo, in the assumed garbs of solemn truths and scientific dogmas, in the dissecting room, the class room, and the clinical ward—they have rolled and do roll, in volumes from the press, with all the impetus and velocity which high-pressure engines and the power of steam can confer—the false notes have been circulated so freely as sterling ore, that nobody thought of examining the water-mark of truth—in short, these tales of error have been more greedily perused than the book of nature, as fostering at once the indolence of the mind, and the ease of the body; and, in this way, the field of medicine has become choaked up with weeds that will require many centuries to root out! We must return again to the paths of

Hippocrates and Sydenham—and close observation at the bed-side of sickness must supersede the theories of the closet, and the dreams of the chemical and the mechanical philosophers.

From the Edinburgh Medical and Surgical Journal.

ON CUTANEOUS ABSORPTION.

The subject of cutaneous absorption, and of absorption generally, has been lately investigated by M. Collard de Martigny. He has succeeded in establishing completely the reality of absorption through the skin, and has thrown considerable doubts over the doctrine advanced a few years ago by Magendie and Fodera, and now so generally adopted, that substances are absorbed throughout the animal system by a process of simple mechanical imbibition. As his experiments on these two topics appear to us important and conclusive, we shall give a short account of them. It is well known that Seguin, Magendie and other anterior physiologists have maintained, that the skin, when not deprived of its cuticle, is incapable of absorbing any substances which do not irritate the cuticle, or alter it in one way or another. This, however, does not appear to be the general opinion; yet we are not aware that any very conclusive arguments have hitherto been brought forward to prove the existence of simple absorption through the cuticle. The vagueness of the foundation on which the general opinion rested led M. de Martigny to endeavour to establish it upon more solid facts; and he has made a great variety of experiments, which seem to put its accuracy beyond all question.

He first placed upon the palm of the hand an inverted glass funnel filled with water, and remarked an obvious diminution of the water in the tube of the funnel after an hour, or even less. He then varied this experiment, using precautions to preserve the pressure of the hand on the funnel uniform, as well as to prevent the evaporation of the water, and he still observed a sensible diminution. The following very simple experiment gave equally pointed results: In two small vessels of the same form and size he placed equal quantities of water, one being placed at his side exposed on the surface to the air, while into the other he put his two hands for half an hour. He then removed them and dried them in a handkerchief, the weight of which was taken both before and after this operation. The water of the two vessels was likewise weighed, and the proper correction being made for what was removed by the handkerchief from the hands, he found that 178 grains had been lost by absorption. Similar experiments were made with milk and with beef-tea, and the results were analogous. It appeared to him that the beef-tea was absorbed more rapidly, and milk more slowly than water. On subsequently resuming the investigation he employed a still simpler method. He placed a few drops merely of the fluid to be examined on the inside of the arm, covering them with a small watch-glass, and allowing the experiment to go on for eight or twelve hours and upwards. In this way he remarked that water and brandy were absorbed altogether, and wine, beef-tea, and milk almost entirely. On next extending his researches to oleaginous substances, he arrived at the singular conclusion, that cutaneous absorption is not exercised upon them at all. Our readers will perhaps remember that Bichat, Magendie, Legallois, and others, have found that oleaginous fluids, directly introduced into the blood, obstruct its passage through the capillaries, and excite inflammation there. They likewise appear to undergo a species of digestion before they enter the lacteals, when they are swallowed as food; and further, when placed in contact with the serous membranes, they are absorbed very slowly, and not till they undergo a species of saponification. In a state of purity, therefore, they cannot enter the blood without causing serious injury. In the alimentary canal this is prevented by their digestion; in the serous cavities by their saponification through means of the serum. On the skin, where there is neither gastric juice nor a serous fluid, it is prevented by their being incapable of passing the cuticle. M. de Martigny found that they did not lose an atom of weight, after being eleven hours in contact with it.

The author concludes this department of his subject by endeavouring to determine the circumstances which regulate absorption through the skin. He has discovered that it is most rapid on those parts of the body where exhalation is greatest. He has farther remarked, that, while exhalation is going on, there is no absorption; that absorption is diminished during exercise or by an increase of temperature; and that it is increased by a depression of temperature or by the evacuation of blood. In short, cutaneous absorption is influenced by every particular in the inverse ratio of cutaneous exhalation.

The other question which the author has endeavoured to investigate relates to the mechanism by which absorption is effected. The experimental inquiries of Magendie and Fodera are conceived by many physiologists to be conclusive of the fact, that absorption is carried on by a process of simple imbibition; in other words, that in reaching the absorbent vessels substances percolate the living exactly as they do the dead tissues. It has always appeared to us, however, that the experiments of Magendie were liable to important objections, and that even the more conclusive experiments of Fodera, while they prove that mechanical imbibition or filtration does sometimes occur in the living body as through dead membranes, do by no means also prove that this phenomena is not materially under the influence of the vital principle. The experimental reasoning of these two physiolgists has been very ably criticised by M. de Martigny, and its fallacies exposed. To the experiment of Magendie, which consists in insulating a vein and applying an active poison to its surface, he very properly objects that the poison

may have entered the blood not by filtration but through the *vasa vasorum*. He admits, however, the conclusiveness of the experiment of Fodera, in which he found that substances injected into the peritoneum might be soon afterwards discovered in the chest; but he insists that the existence of such an imbibition is no argument against the existence also of a special action of absorption; and such a special action has, we think, been proved by him to occur in the following phenomena. Into the stomach of animals killed the previous day he injected a weak solution of hydrocyanate of potass, and four minutes afterwards he observed that the outer surface of the stomach became of a uniform blue colour when tested with the sulphate of iron. He then repeated the same experiment on living animals with the following results. Twenty minutes after the injection of the hydrocyanate, when none of it had reached the outer surface of the stomach, he poured several drops of the sulphate of iron over it. It was not till five minutes afterwards that he remarked here and there a faint blue tint not uniformly diffused as in the former instance, but arranged in a fine network; gradually the tint deepened and extended itself, its reticulated structure became less distinct, and at length a uniform blue stain was formed, as in the dead animal. It is not easy to see to what the slow progress of the fluid through the living stomach is to be attributed, unless to the permeability of the tissues being modified by their vitality. He has also endeavoured to establish the doctrine of special absorption by the following experiment, in which an attempt is made to show that absorption is under the influence of the nervous principle. Having divided all the nerves which supply the hind leg of the rabbit, he tightened a ligature round the whole thigh, exclusive of the vein and artery, and introduced a solution of the extract of nux vomica into the lower part of the leg. He then found that the poison operated more slowly than when the nerves were left entire. In conclusion, therefore, from these and other familiar facts, the author argues that the new doctrine of absorption must be modified by a partial return to the old; and he adopts the opinion, that this function is carried on by a special and elective action of the capillaries.—*Arch. Gen. de Med.*

From the Lancet.

SUCCESSFUL CASE OF TRANSFUSION.

By J. Howell, Esq. Bridge street, Southwark.

There has rarely been a more important operation proposed to the profession than that of transfusion, and if on further trials it proves deserving the character it would seem entitled to, it will reflect the highest honour upon Dr. Blundell, and be the means, in the hands of enterprising men, of saving the lives of many of the most interesting part of the creation, who would fall victims to uterine hæmorrhage.

A poor woman, the mother of twelve children, 40 years of age, had a second time engaged me to attend her in her accouchment, which she expected to take place at the beginning of the ensuing month of March. On the 31st ultimo, I was hastily summoned to her, and found, that about half an hour before, without experiencing any pain, whilst quietly occupied with her needle, she had been attacked with one of the most frightful hæmorrhages I had ever seen. She was then flooding most profusely, and had lost, before my arrival, a small chamber-vesselful of blood. I immediately laid her on the bed, and, on examination, found the os uteri sufficiently dilated to admit my finger, and quite free from any connexion with the placenta. I directly ruptured the membranes, the liquor amnii escaped, the uterus contracted, and the hæmorrhage instantly ceased. The pulse was feeble, and she complained of being very faint, a state which I did not think it prudent, of course, to interfere with. I applied cold water to the uterine region, lessened the temperature of the apartment, and adopted all those precautions the serious situation of my patient called for. I remained with her some time, but as the flooding had ceased entirely, and she was free from pain, I left her, charging her friends to keep her cool and quiet, and should any pain come on, or the slightest hæmorrhage, to send for me directly. This was about half past three o'clock, P. M., and about six I was sent for, in consequence of labour pains coming on. I found she had but very little pain, and the flooding had returned in a very slight degree, but, before my arrival, had entirely stopped. The os uteri remained rigid and undilated. She was very faint, and the extremities cold; indeed the aspect of the patient was altogether alarming. In this stage of prostration of the vital powers, there was not absolute syncope, and the stomach remained undisturbed. As there was no contra-indication, I did not hesitate to administer brandy to the amount of five or six ounces; but although it rallied her for a few minutes whenever she took it, she sunk at last into such a state of collapse, that I apprehended a fatal termination, unless something more were speedily done for her. With these feelings, I requested the advice and assistance of my friend Mr. Ravis, of Union street; who, after observing the inefficacy of stimulants, and finding the woman cold, excessively cold, with an imperceptible pulse, and supervening insensibility, agreed with me, that nothing but transfusion held out a shadow of hope. Delivery had nothing to do with it: there were no pains; there had been no hæmorrhage since my second visit; therefore delivery could have availed nothing, but would necessarily have induced some loss of blood, and thus, probably, have placed the woman beyond hope. Seeing, then, that nothing but the operation allowed any chance, and knowing that our neighbour, Mr. Doubleday, had acquired some tact in the performance of it, we lost no time in soliciting his assistance, which was granted us with that readiness creditable to Mr. Dou-

bleday, as a man of humanity, and one interested in the improvement of our profession. The woman was now in the most exhausted state, and could be prevailed upon to take only very small quantities of brandy, asserting, when able to articulate, that she was dying. No pulse to be felt; the respiration scarcely to be recognised; the whole body as cold as ice; the very breath cold, and with that high degree of restlessness so characteristic of the last stage of these lamentable cases, it was very evident the patient could not long survive.

A good supply of blood being obtained from the husband, a hearty coal-heaver, the operation was commenced twenty minutes before eight o'clock, and occupied fifty minutes, during which time twelve ounces of blood were cautiously injected. When the first five ounces had been thrown up, the pulse was perceptible at the wrist, and the patient, with increased power, declared she was better, and should do very well. At the conclusion of the operation, the woman was warmer, and continued getting so, taking, from time to time, some brandy and water, and as much warm milk as we could get her to swallow; still the pulse remained indistinct and fluctuating. At about nine o'clock the pains returned, and the os uteri quickly dilating, in about an hour after the transfusion, the patient was delivered of a dead child, the placenta almost immediately following. By carefully kept-up pressure above the pubes, the uterus was made to contract firmly, and very little blood followed the after-birth; yet there was enough to produce a sensible effect on our patient, again inducing the coldness and faintness slightly. Fortunately, however, this was removed by some brandy and water, with a full dose of laudanum, so that an hour after delivery, the woman was tolerably easy, much warmer, and inclined to sleep. We left her with a feeble pulse, but, in other respects, comparatively comfortable; and, with the assistance of another opiate, she passed a tranquil night. It may be mentioned, as showing the extreme condition of the patient before and during the operation, that she was quite insensible to any pain from it. It should be observed, too, that after the first injection, a disposition to nausea, unattended, however, with vomiting, was produced.

Did the transfusion occasion the recurrence of the pain?

It is only necessary to add that the patient has gone on very well, no untoward symptom having appeared; and she is now in such a satisfactory state, as to leave no doubt of her speedy recovery.

From the Lancet.

SINGULAR CASE IN MIDWIFERY. By Dr. Hare, Great Baddow, Essex.

I beg to transmit the following midwifery case for insertion in your widely-extended publication, as the most effectual means of rescuing it from oblivion, which I feel it does not merit, being the only one of the kind upon record.

When I resided at Southminster, Sarah Maynard, of the adjoining parish of Burnham, came to engage me to attend her in her approaching confinement; this was in the autumn of 1789. She was about twenty-eight years of age; a short, thin, delicate woman.

I arrived a few hours after she was taken in labour, on the 10th of November; the pains were strong and regular, with much bearing down. I had her laid on her left side, in order that I might examine and judge of her situation. I found the uterus low down in the pelvis, close to the os externum. I hoped the labour would soon be over, should the os uteri dilate; I endeavoured to find it in every direction, first backward towards the anus, then all round the pelvis, without being able to make any thing out. I could find no entrance into the vagina, nor could I introduce my finger horizontally between the perinæum and uterus, which I had never failed to do in all other cases, however low the presenting body might be. I felt convinced, during the last examination, that the uterus adhered all round the pelvis, and that the vagina was totally obliterated. It was about eight o'clock on Wednesday evening when I came to her, and by the time I had satisfied myself of these extraordinary particulars, the night was pretty far spent. I proposed to lie down for an hour or two, more with a view of reflecting upon the case without interruption, than with any intention of going to sleep. Her pains coming on stronger, attended with severe sickness, I was soon called up again. I amused the woman as long as I could, by wishing her to walk about a little, and when her patience was pretty well exhausted, I made another examination, with no better success. I thought I discovered the os tincæ, but it turned out to be only a furrow, or plica of the uterus. The action of the pains upon the uterus was intercepted and lost by its adhesion round the pelvis, for the presenting body never varied its position, which I had every reason to suppose was the head of the child, so far as I could judge by the feel through the uterus, not being able to find any entrance. I represented to the woman's friends the extreme danger and singularity of the case; that, for the satisfaction of all parties, and to avoid censure, I wished for a consultation. Dr. Paxton, of Maldon, and my brother, were fixed on. We met on Thursday evening. I represented the state of the case to them, and they found every thing as already mentioned. Her pains were still strong and regular; constant sickness and vomiting; complained much of violent pain in the abdomen, which made me fearful of rupture of the uterus, as the resistance at the outlet was so great.

Upon mature deliberation, we concluded little could be attempted with any prospect of success. Nothing suggested itself except the Cæsarian operation, at any time formidable, but under present circumstances not jus-

tifiable, on account of the appearance of uterine and peritoneal inflammation coming on.

She had opiates administered from time to time to alleviate her sufferings. We questioned the husband whether he had found any impediment or obstruction in his intercourse with his wife; he declared, no longer than about two or three months, when she complained of pain. When she spoke to me to attend her, she informed me she had lain in of her first child about eight years before; that she had a very bad time, and was attended by two surgeons.

Being desirous of gaining every information that could throw any light on this mysterious case, I wrote a note to Mr. Passel, one of the surgeons whose patient she had been, (the other gentleman being dead,) requesting him to inform me of all or any of the particulars of her former labour that he could recollect, as her present situation was a most extraordinary one.

He politely returned me an immediate answer.—"That from his memorandum of the case the presentation was a natural one; but the death of the child not being ascertained at first, and the pains being very violent, with extreme rigidness of the os internum, rest was procured her by the assistance of opium twice. After the use of clysters, and in about three days, nature perfected the business without any help, he having left the house about two hours before, and the other gentleman being down stairs at breakfast."

It will be seen in the sequel the great importance of this communication. On Friday morning we found she passed a very bad night; the pains continued without abatement; extremely anxious; up and down, not bearing to be confined to one posture; the countenance wild; pulse small, hard, and quick. During the pains there was a good deal of discharge from the uterus, of a thin, whitish fluid, which we could not account for; the abdomen distended, painful, and tender, not bearing to be touched. Saturday morning, slightly delirious; pulse weak and low; coldness of the extremities. She died about eight o'clock in the evening, after seventy-two hours of great suffering. The pains ceased some hours before her death, but restless to the last, as she was walking about the house a few minutes before her death.

We had great difficulty in procuring a post-mortem examination. Upon opening the cavity of the abdomen some fœtid air escaped, and it contained a considerable quantity of thin whitish matter, exactly similar in appearance to what had been discharged from the uterus during the last stage of the labour. The intestines, viscera, peritoneum, and uterus, were covered with a thick layer of coagulable lymph; the uterus filled the whole anterior part of the abdomen and pelvis. Upon making a longitudinal incision into it, it was found to contain a fine full-grown child, the presentation natural, the fœtus standing, as it were, upon its head, and nearly filling the pelvis. There was an opening through the uterus, about four inches long and two wide, opposite the sacrum, evidently caused by its projection; its edges were worn thin, and seemed to be of some standing, produced by the friction of the uterus, as it increased in volume, against the projecting bone. The rectum was turned to one side of the sacrum. This opening, communicating with the abdomen and uterus, satisfactorily accounted for the discharge of the whitish fluid during the last day of the labour, being the pus thrown out into the abdomen from so extensive an inflammation. Upon examining the uterus in situ, we found at the os externum, a small, smooth, round opening through it, barely sufficient to admit the blunt end of a small probe, and from this foramen extended a cicatrix for about two inches, towards the right labium, and was lost in its adhesion to the side of the pelvis. The urethra was in its natural situation; no appearance of vagina; the uterus at the os externum, and adhering to the perinæum and sides of the pelvis; the labia were two inches long, and formed a kind of external cavity.

Had I not procured a history of her former labour, the case, as to how the laceration took place, would have been involved in much obscurity; it can, I feel, be satisfactorily explained, viz., three days in strong labour, extreme rigidness of the os internum, delivered suddenly without any assistance, &c. This could have arisen only from laceration of the uterus during the labour; hence also its consequent adhesions to the perinæum and sides of the pelvis, in consequence of the inflammation and coagulable lymph thrown out during so protracted a case. Whether the gentlemen were aware of what happened, or what sort of recovery she had, does not appear.

In a pathological point of view, I feel this case to be of great importance, and perhaps the most singular of the kind upon record. After so extensive an injury, becoming again impregnated, and sustaining a further extensive opening at its posterior side, from its friction against the os sacrum, all this with apparent impunity, shows the wonderful resources of nature.

It appears not the least singular part of this case, that the only remains of the os tincæ was the foramen already mentioned. Physiologists must decide how far this case is calculated to elucidate that wonderful and mysterious act of Providence—CONCEPTION. The sole mode of impregnation was by this small opening in the uterus; and the only lodgment for the semen was between the labia, the vagina being quite obliterated.

Should there appear any obscurity in the relation of this case, I shall feel happy to afford you or your correspondents any further information in my power, having made too deep an impression on my memory ever to be eradicated, witnessing so much distress and suffering without power to alleviate them.

I have, at some future period, to communi-

cate some extraordinary particulars of a case of retention of urine. Sir Astley Cooper mentions it in No. 13, page 410, of The Lancet; I am the person there spoken of. A cast of the case is in the Museum of St. Thomas's Hospital.

Great Baddow, Chelmsford, Essex,
January 1, 1828.

From the London Medical Repository.

FURTHER REMARKS ON THE INTERNAL EXHIBITION OF THE ACETATE OF LEAD, *chiefly with the view of determining to what extent it may be safely administered in the Cure of Diseases, especially in Uterine Hæmorrhage.* By WILLIAM LAIDLAW, Esq. Surgeon.

In the former remarks,* it was stated that the attempt made to determine this point had been interrupted, not by a necessary, but an accidental circumstance, and also, that the second experiment, instituted for the accomplishment of the same purpose as the first, had likewise been interrupted, by other means than those contemplated. It had been my own previous opinion, as well as that of others, that, although various accidental phenomena might result from the internal use of the acetate of lead, yet the chief and most unvarying effect was, the inducing of colica pictonum. With this impression, it was expected that the salt could have been pushed to the requisite extent for the production of that disease, and possession thereby obtained of a criterion by which, generally, a fair estimate might be formed of the quantity that might be employed for its salutary results, without the risk of inducing any of its deleterious effects. But this conclusion, so far as the following experiment goes, does not appear to have been well founded.

On the 10th of October, the following prescription was prepared, to be continued till colica pictonum was induced, or otherwise contra-indicated. ℞. plumbi superacetatis ʒj.; pulveris opii, gr. viii.; medullæ panis, ʒj.; acidi acetici, q. s. Subige in massam, dividendam in pilulas octodecim æquales, e quibus, ter quotidie, una sumatur.

When these pills were commenced, good health was apparently enjoyed, although, from the subsequently sudden phenomena, there is reason for suspecting that the constitution had not been entirely freed from the influence of the former experiment.

11th—2d day. Tongue white; taste in the mouth metallic; pulse 60; urine high coloured.

12th—3d day. Appetite good; metallic taste more distinct; gums tender and turgid; pulse 55; weakness felt at the knees; urine high coloured; bowels have not been moved since the 10th. ℞. pulv. rhei; pulv. jalapæ āā ʒss.; acidi acetici q. s. Fiant pilulæ xiv. e quibus, omni quartâ horâ, donec alvus leviter solvatur, duæ sumantur.

13th—4th day. Eight of the laxative pills taken; bowels moderately moved; metallic taste, tenderness and turgidity of the gums less severe; urine more natural; debility diminished; pulse 56.

14th—5th day. All the symptoms diminished; functions natural.

15th—6th day. An unpleasant sensation of tightness in the breast, increased by exercise; metallic taste strong, not sweet, rather disagreeably bitter; gums turgid and tender; no nausea; constriction of the throat; pains of the stomach or abdomen; pulse 52; after moderate exercise, 85; heat, 96; after moderate exercise, 100½; urine high coloured; bowels confined.

16th—7th day. The uneasiness in the breast increased; metallic taste stronger; gums more turgid and tender; pulse 52, rather weak; urine high coloured; bowels confined. Repet. pil. plumbi superacet.

17th—8th day. The affection of the mouth increases in severity; the unpleasant sensation in the breast and debility are also increased; countenance sallow; pulse 58; respirations, in the space of a minute, twelve, and somewhat laborious; no nausea, pains of the stomach or abdomen; bowels confined. Intermit. pil. plumbi superacetatis. Repet. pil. rhei et jalapæ.

18th—9th day. Last night ptyalism came on; all the other symptoms continue severe. This morning a sensation of tightness in the hands and feet, especially in the fingers and toes, is felt gradually diminishing in distinctness as it extends beyond those parts; the sensation is not that of acute pain, but is rather of numbness, increased, or becoming more perceptible by the using of the affected parts.

By the free exhibition of the sulphate of magnesia, all the described symptoms, with the exception of the affection of the mouth, gradually decreased, so that they ceased after the fifth day to be troublesome. The gums, however, were so tender and turgid as not to be entirely well for a month after the termination of the experiment. The ptyalism was never profuse, but sufficiently copious, so as almost entirely to prevent sleep for three or four nights, and troublesome in some degree for several weeks.

Up to the eighth day seventy grains of the acetate of lead had been exhibited, and yet no indication of the complaint had appeared, the inducing of which was the chief object of the experiment. Other symptoms, however, had manifested themselves, and had made such an impression on the animal economy, as to render it a subject for consideration, whether or not it were prudent to proceed with the experiment farther. Accordingly, consulting with Dr. Henry Davies, it was agreed, that the severity of the symptoms rendered it advisable to put a termination to the process.

By this second experiment, the inference drawn from the first, relative to the quantity of the acetate of lead that may taken without

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* Vide Journal of Foreign Medicine for May.

the risk of inducing colica pictonum, is confirmed, and extended from fifty to seventy grains.

As a further corroboration of this inference, I shall relate the substance of a case of severe uterine hæmorrhage that occurred under my observation: November last, Mrs. I—, aged 28, suckled her child nine months, four of the last five of which the catamenia regularly appeared, and at each successive period increased in quantity. Shortly after the last period it again returned, and continued for seven weeks before I saw her. Latterly the discharge was accompanied with severe pains in the region of the uterus, resembling those of labour, and with the expulsion of considerable *coagula.* A variety of astringent medicines internally were administered, also an injection, per vaginam, consisting of a solution of the acetate of lead in acetic acid and distilled water, the cold hip bath, and pressure applied to the region of the uterus; but no impression having been made on the complaint, the acetate of lead, in the same proportion as in the above experiment, was prescribed, with the addition of acidulated draughts. Such, however, was the severity of the malady, that it was not entirely overcome till seventy-five grains of the salts were administered.

Notwithstanding this extensive use of the remedy, neither colica pictonum, nor any of the severe symptoms that occurred in the second experiment were induced. The mildness of the operation of the remedy in this case is, perhaps, to be accounted for by the circumstance of the bowels having, without aid, continued quite regular (which is a rare occurrence) during the whole period of the salt being exhibited. For it was remarked in both the experiments that, whenever the bowels were suffered to become constipated, the effects of the salt became more marked, but being moved by the assistance of medicine, all the severe symptoms gradually diminished. Hence the control that will always be possessed by the judicious exhibition of this remedy.

By this conclusion, however, it is not wished that it should be understood as asserted, that in every instance the salt can be pushed to this extent without inducing other unpleasant symptoms than colica pictonum, which may render it necessary to put a termination to its exhibition. On the contrary, though colica pictonum was not induced, other symptoms did put a termination to the experiment. Besides, idiosyncrasies will, in the administration of this medicine, be found to occur as in others. One patient will be found who cannot, without serious inconvenience, take even one grain of calomel, while others can take ten, not only with impunity, but with decided advantage. So it will happen with the acetate of lead. Some patients I have found with whom it could not be carried beyond twenty grains, without inducing vertigo, nausea, and in others, even vomiting, while in the experiment, in the case of Mrs. I—, seventy grains were exhibited, without either these symptoms, or those of colica having been induced. The quantity, therefore, judiciously given in the latter cases, would be extremely rash and ill advised in the former.

Although, then, the conclusion, that from fifty to seventy grains of the salt may be administered, without the risk of inducing colica pictonum, will be found generally to hold good, yet much will depend on the circumstances of particular cases, which can only be positively determined by careful observation.

From this experiment it does not appear that colica pictonum is so frequently or so easily produced by the use of the acetate of lead as has been supposed. Gripes, it is true, are often thus produced; but these seem to be an incidental and not a necessary consequence, arising either from a peculiarity in the habit of the patient, a deterioration of the opium, or the proportion employed being too small. In the experiment, the opium employed was British, and in the proportion of rather more than one to eight of the salt; but there was not the slightest symptom, during the whole seven days which it lasted, of gripes, nausea, or pains in the stomach.

Should gripes be induced previous to the quantity of the remedy having been administered necessary either for the checking or removal of the malady, it does not appear that that circumstance should be considered a sufficient reason for suspending the remedy, but rather that the proportion of opium should be increased to the requisite extent for the suppression of the uneasy sensations. Viewing these sensations not in all their relations, the limited survey may induce a belief that they are really the disease denominated colica pictonum. They are, however, it is presumed, materially different, arising entirely from the irritation of the salt in passing along the intestinal tube, and can therefore be removed by the diminution of that irritation. But colica pictonum seems to be produced by the constitution being fully imbued with the metal, and which unfolds its influence on the system in regular paroxysms in the intestines, which paroxysms, though they can be moderated by opium, cannot be entirely overcome otherwise than by the removal of the metal from the system by the various excretions. The difference between the gripes, which are the effect of a recent exhibition of the salt, and the paroxysms which are the result of a longer continuance and more gradual introduction of it, may, perhaps, be fitly marked, by denominating the former a local, the latter a constitutional affection.

By neither of these affections, however, was the interruption of the progress of the experiment to be attributed, but to a combination of other symptoms, especially the affection of the mouth and breast. In the first experiment, slight indications of the former of these were perceived; but from a circumstance before mentioned, it was then uncertain whether these ought to be attributed to the action of the acetate of lead or not. In this experiment, however, there is no such ambiguity. The

affection of the mouth was clearly and indisputably referrible to the action of the acetate of lead alone.

Hitherto, of metals, the preparations of mercury alone have been ranked as sialogogues. The exclusive designation applied to these preparations, after the phenomena unfolded in this experiment, cannot, it is presumed, be considered as any longer quite so appropriate. For besides the metallic taste, the tenderness and turgidity of the gums, occasioned by the acetate of lead, there was also produced increased secretion of saliva.

It may be proper to state, that none of my patients in any degree perceived such symptoms.* But it may also be remarked that none of them, with the exception of one, took the salt to the same extent as was done in the first and second experiments; and further, that in the first experiment, it was perceived in so slight a degree, as might have been overlooked by a patient who takes medicine, not with a view of remarking on every impression, but only for the mitigation or the removal of a particular complaint. Besides, it can scarcely be expected of a patient, that the medicine shall be taken with the same regularity and care as when the object is purely to ascertain its spontaneous results. These considerations will, in some degree, account for the absence of the above symptoms.

In the fifth and sixth case of colica pictonum, quoted by Orfila from M. Merat, the patients are stated to have had a disagreeable and bitter taste in the mouth.† Whether this taste was metallic, from the statement cannot be satisfactorily ascertained, but the supposition that it was, is not improbable. No mention, however, is made by that author, or indeed by any other that I know, of the tenderness and turgidity of the gums, and of ptyalism. This, however, I am inclined to attribute, not so much to idiosyncrasy as to the mode of introduction, and to the quantity, in a given time, received into the system. Ptyalism, it is well known, is greatly influenced by these circumstances in the exhibition of mercury; and it would appear they have a similar influence in modifying the effects of the acetate of lead; for, notwithstanding the frequency of the occurrence of the system having been brought under the influence of this salt, yet that having happened for the most part in a gradual manner, there is reason to conclude, from the silence of authors, that ptyalism rarely, if ever, occurred. But when introduced rapidly, regularly, and to the requisite quantity, as in the experiment, it appears to be one of its natural results. Does the circumstance of the acetate of lead, of mercury, and, as is reported, of arsenic in producing ptyalism, lead to the conclusion that all metals, if they could be taken to the requisite extent, would have a similar effect?

The other principal cause which interrupted the experiment was the affection of the breast. The sensation produced by this affection was not that of acute pain, but rather resembling the uneasiness which is the effect of moderate pressure. It felt as if deep seated, and, on taking a full inspiration or exercise, gave the sensation as if the lungs were difficult to distend.

This uneasiness, it is presumed, is to be attributed to the astringent effect of the salt, producing a somewhat tightened or condensed state of the lungs. This supposition accounts for the uneasiness being increased by a full inspiration and exercise, and it is corroborated by appearances on dissection, in one of the experiments of Orfila. He states that, on dissecting a dog, immediately after death, which had been poisoned by injecting into the jugular vein ten grains of the acetate of lead dissolved in two drachms of distilled water, the lungs were found livid in patches, their texture more tight than in the natural state, and very little crepitating.

But notwithstanding these appearances, Orfila thinks it allowable to doubt whether or not the acetate of lead acts on the lungs, and proceeds to assign reasons for his scepticism. As, however, it is conceived that the doubts relative to what may be considered the usual appearances of the lungs, as resulting from the use of the salt, are not well founded, it will be proper to give the details of the experiments which have excited those doubts.

"Experiment 1st. Thirteen grains of the acetate of lead of commerce dissolved in a drachm and a half of distilled water, were injected into the jugular vein of a small and weak dog. The injection was hardly accomplished, when the animal made three or four deep inspirations, and died without the least sign of pain or convulsions. He was instantly opened. The heart was beating forcibly; the blood contained in the left ventricle was fluid, and of a vermillion red colour; that which filled the right ventricle was also fluid; the lungs, which were of a beautiful rose colour, were crepitating, and their substance did not appear to be hardened.

"Experiment 2d. Five grains of the acetate of lead dissolved in two drachms of distilled water, were injected into the jugular vein of a robust dog of middle size—he died on the fifth day. The lungs were crepitating throughout their whole extent, and did not appear to show the least trace of injury."

In a note, which, for the sake of reference, I shall call Experiment 3d, the experimenter proceeds: "In one of my experiments on this salt, I obtained results which appear to me important to be made known. After having injected into the jugular vein of a dog of middle size, ten grains of acetate of lead dissolved in two drachms of distilled water, the animal appeared suffocated; his respiration became difficult, panting and precipitate—and he died

* Since writing the above, one case has occurred to me, in which the patient, after having taken forty grains of the acetate of lead, complained of a bitter taste in the mouth and tenderness of the gums.

† Vide Toxicology, Vol. I. p. 472.

thirty-five minutes after the injection, without giving the least sign of vertigo, paralysis, or convulsions. On dissecting the body, immediately after death, the lungs were found livid in patches, their texture more tight than in the natural state, and very little crepitating."

Is this isolated fact sufficient to prove that the acetate of lead acts upon the lungs? I think it is allowable to doubt it. In fact, if this compound exerted its action on these organs, should we not have found, in Experiment 1st, the blood of the ventricle blackened? and in Experiment 2d, would not the animal, after having experienced the action of the poison during four days, have exhibited some sort of injury of the lungs?*

In regard to the first experiment it may be remarked that the blood is not, nay, cannot be found blackened in the left ventricle of the heart, unless respiration is either entirely stopped, or so much impeded as to render it laborious for some time before the action of the heart ceases. The period necessary for the producing of this effect, it appears, varies in duration, not only in different animals, but even in the same animal, under different circumstances. In this experiment, the animal being weak, and the proportion of the poison great, (thirteen grains) the shock given to the nervous system was so instantaneous and powerful as to destroy life, without allowing a sufficient interval for either affecting the colour of the blood or changing the structure of the lungs.

In the second experiment it will be observed that the animal was robust and of middle size, while the quantity of poison was small (not more than one-third,) considering it in relation to the strength of the animal the subject of the first experiment. This quantity, from the mode of its administration, although sufficient to affect the nervous system, yet was not equal to the producing of a marked or visible change in the substance of the lungs. But as changes in structure vary in degree, so their not being visible is no conclusive proof that they really do not in some degree exist. The probability is, from the extensive influence of the salt over the system, and the time it existed in it, that the substance of the lungs was affected by it, although not to such a degree as to render it obvious by inspection.

In the third experiment, the animal was likewise of middle size, and the quantity of the salt employed double that of the second. The size of the animal being the same, and the quantity of the salt double, would lead, *à priori*, to the conclusion that the results would be developed, not only in a shorter time, but also be rendered more conspicuous. The animal is accordingly found to have survived only thirty-five minutes after the injection of the salt, and that its astringent effects on the substance of the lungs were eminently marked and unequivocal.

* Vide Toxicology, Vol. 1st. Exp. I. et II. p. 460. et note p. 461.

If these remarks be well founded, they will, it is presumed, account more satisfactorily for the different results in the experiments, than by attributing them merely to the effect of accident. For there can be no doubt, I think, that the salt extends its influence over the whole system, and that the lungs, in common with other parts, are brought under its dominion. This view of the subject appears well maintained by the appearances in the third experiment of Orfila, by the sensation of stricture of the breast and laborious respiration felt by myself in the second experiment, and also by the fact, that a hæmorrhage from the lungs is as successfully suppressed by the exhibition of the acetate of lead as from the stomach or uterus.

From the Medico-Chirurgical Review.

MALARIA:—*an Essay on the Production and Propagation of this Poison, and on the Nature and Localities of the Places by which it is produced: with an Enumeration of the Diseases caused by it, and of the Means of preventing or diminishing them, both at Home and in the Naval and Military Service.* By John Macculloch, M. D. F. R. S. &c. Physician in Ordinary to his Royal Highness Prince Leopold. Octavo, pp. 480. Longman & Co. 1827.

The subject of this essay has undergone investigation, under various names, ever since the days of Hippocrates—perhaps from a much earlier period. Marsh miasmata—paludal effluvia—morbific emanations—epidemic constitutions—vegeto-animal exhalations—malaria, and other appellations, have been conferred on an invisible, intangible, undefinable—and hitherto unascertainable *something*, which has been only appreciated by its *effects*, but which is totally unknown in its *essence*. By a few visionaries, its existence has been denied, because its substance could not be demonstrated; but all men of sober sense and unbiassed observation have acknowledged, not only the existence, but the terrific power, of this invisible agent. The medical practitioners of our fleets and armies, from the melancholy and extensive experience which they have had of its influence in the production of diseases, where its operations have been on a large scale, bear ample testimony, in their writings, to the tremendous effects of this scourge of the human race; but, we believe that no man has ventured to extend its influence to so wide a circle, or multiply its sources to such an indefinite extent, as Dr. Macculloch. For this he will be deemed a visionary by many—perhaps by most medical men, who give themselves little trouble in such an investigation. In this journal, he will find a stanch supporter, though not an idolater. We are in the habit of thinking for ourselves—and we believe we have had a field for observation somewhat wider than Dr. Macculloch has had. We shall freely criticise and freely commend—but always under the guidance of what we

conceive to be public justice and public utility.

Dr. Macculloch will secretly acknowledge that he has ardently aimed at being *impressive*, and even *eloquent*. In the former object he has often succeeded—in the latter, seldom. With learning, science, and ample command of words, our author has been singularly unhappy in the construction of his sentences—a majority of which terminate as if something were wrong or defective, obliging the reader to reperuse them. Dr. M. will find that an elegant or eloquent sentence must never cost the reader a thought as to its meaning and import. We make this observation, because we think that the want of brevity and perspicacity will greatly circumscribe the range of utility to which this work might otherwise extend. We shall now proceed to notice the chapters in the order of their occurrence in the book before us.

Chap. I.—*Introductory.*

Dr. M. observes, that the existence of *malaria* has long been familiar to physicians, and even the vulgar, as the cause of intermittent fevers; but this is of little use, if the one class and the other are ignorant that, to this same malaria are owing the common fevers of summer and autumn, as well as a host of other and unsuspected diseases, as dysentery, cholera, neuralgia in various forms, nervous and dyspeptic affections—and, finally, what may be termed bad health. Dr. M. concludes, that one-half, at least, of human mortality is owing to this cause. It does not, however, bear equally hard on all countries; nor at all times in the same country. In England, for instance, the death of a king by marsh fever would now excite some sensation—"yet thus died Cromwell, one among hundreds; the death, indeed, not without note, but its cause not esteemed out of the ordinary course of mortality." In England, observes our author, "that which has been diminished, has not been extirpated." The fens of Lincoln are not the rivals of Walcheren—nor is Romney equally pestiferous as the Pontine Marshes. Still, as travellers, as merchants, as voyagers, and as soldiers, we are interested in the salubrity or insalubrity of all parts of the world, as well as of our own islands. Dr. M thinks we may take the average of life among ourselves at 50; in Holland, at 25; in some districts of France, at 22, 20, 18—so little is the chance of life.

"Let us turn to Italy: the fairest portions of this fair land are a prey to this invisible enemy, its fragrant breezes are poison, the dews of its summer evenings are death. The banks of its refreshing streams, its rich and flowery meadows, the borders of its glassy lakes, the luxuriant plains of its overflowing agriculture, the valley where its aromatic shrubs regale the eye and perfume the air,—these are the chosen seats of this plague, the throne of Malaria. Death here walks hand in hand with the sources of life, sparing none: the labourer reaps his harvest but to die, or he wanders amid the luxuriance of vegetation and wealth, the ghost of man, a sufferer from his cradle to his impending grave; aged even in childhood, and laying down in misery that life which was but one disease. He is even driven from some of the richest portions of this fertile yet unhappy country; and the traveller contemplates at a distance deserts, but deserts of vegetable wealth, which man dares not approach,—or he dies." 7.

The above is a fair specimen of the better kinds of Dr. Macculloch's style and manner—we shall have occasion to point out some less favourable specimens as we proceed.

The walls of imperial Rome cannot keep out this enemy of human life. It enters with the Roman into his chambers, and stalks through his streets—nay, "the hour is impending when the Eternal City will cease to be—when it shall submit to that fate, which has been the fate of proud Nineveh, and Babylon, the queen of nations."

Sicily, Sardinia, Greece, are grand seats of this destructive production, "while, in tropical regions, it is to fall by thousands and tens of thousands, the summer harvest of Death walking hand in hand with that of the vegetable world." England herself is far less exempt from malaria than she is supposed to be. Speaking of our participation, as soldiers, in the malaria of other countries, Dr. Maculloch rises into the sublime, or even the terrific.

"It is disease, not the field of action, which digs the grave of armies; it is Malaria by which the burning spirit, fitted for better things, is quenched, and in the coward's bed of death. This is the Destroying Angel, the real pestilence which walks at noon-day; and to which all the other causes of mortality are but as feeble auxiliaries in the work of destruction." 9.

Most of his readers will agree with our author, that "it is *not* the *field* of action which digs the grave of armies." The idea of a *field* digging a *grave* is more incongruous than that of a grave digging a field. If Dr. M. had substituted the *sword* for the *field* of action, the metaphor would have been highly poetical, and without any thing to shock the ear. We think these little incidental criticisms are fairly called forth, when we see a constant attempt at eloquence, and sublimity of ideas.

Dr. M. alludes to a characteristic feature in the moral character of those who inhabit malarious countries—namely, their firm belief in the healthiness of their native air and soil. Walcheren is instanced as an example. We can positively state that the inhabitants of Walcheren did *not* "repel with indignation the charge of unhealthiness which was brought against their beloved birth-place," by our troops on the late fatal expedition. We were there from the beginning till the end of the expedition, and can vouch for the fact, that the inhabitants considered the autumn of 1809 as a very sickly season among themselves, and remarked that this was the case at intervals of various duration.

Dr. M. offers nothing new, when he under-

takes to prove that the existence of a marsh is by no means essentially necessary for the production of febrific miasmata. Every naval and military surgeon knows, and many of them have demonstrated in their writings, that malaria will often arise from ground parched with heat; from the summits of mountains; the rocky bottoms of ravines; and the densest forests. We need not refer to the writings of Lind, Jackson, Blane, Burnet, Johnson, Dickson, Fergusson, Musgrave, and hundreds of others, for proofs of this assertion.

CHAP. II.—*Nature of the Evidences respecting the Production of Malaria.*

In this chapter, our author is conscious that he is "compelled to resort to proofs of some delicacy, and to appeals to an experience, for which, be it received as it may, he must be very often himself responsible." We are disposed to grant him every degree of liberal indulgence on these delicate points. We agree with him that it is a fundamental fallacy in this case to limit the power of producing malaria to those soils or situations *only*, where intermittent or remittent fevers are found to prevail. Such mistake, we grant, is very common in the minds of "imperfectly educated practitioners," of which, however, the number is rapidly diminishing.

This fallacy set aside, the real conclusion (observes our author) to be drawn is—"that, wherever *remitting* fevers or fevers of *whatever nature*, that are *not* contagious, as well as dysenteries, are produced, the proof of summer malaria is as complete as if the same soils had, in spring, produced ague." With some modification, we can have little difficulty in subscribing to this doctrine; for we have invariably maintained that all endemic, as well as epidemic fevers, were owing to something emitted from the earth—rather than to things generated in the air. This last is merely the vehicle by which the miasma is suspended or wafted about, like the mineral impregnation which mingles with the water of spring or stream.

The careful observer will often perceive that there are certain determinate places, without any marshes, where fevers are almost annually prevalent; while other places in the vicinity are almost wholly or nearly exempt. In the *former* localities, (Dr. M. avers,) some one of the various circumstances of soil, hereafter to be pointed out as productive of malaria, will, on careful inquiry, be found.

A more delicate proof may be drawn, he thinks, from the fact, that some localities are known to be *unhealthy*, as compared with other neighbouring places.

"Thus it is a vulgar remark, that in certain houses or places, a family is rarely without some sickness; or, to use the strong but coarse language in which it is generally stated, 'that the apothecary is never out of the house.' It is almost equally familiar, that families, which had before been healthy, have become the reverse on changing houses or situations; as, in the opposite cases, that they have recovered health by change of residence. Of such facts as these, there is no observer who must not be able to recollect numerous examples." 19.

The laxity of reasoning among medical men, as to the causes of these local peculiarities, is strongly censured by Dr. Macculloch. But he should be merciful, and recollect that all men are not such acute philosophers as himself.

"To anticipate, but no more than is here necessary, what must shortly be said on the subject, if a gravelly soil is healthy, it is because its easy drainage prevents the growth of that particular vegetation which is the cause of malaria; and if a clayey soil is the reverse, it is because, by lodging superficial water, it generates, however partially, those marshy or undrained spots, or wet woods, or moist meadows, which are the sources of this poison, and, consequently, of the various diseases confounded under the vague term unhealthiness." 21.

It is to be remembered, however, that gravelly soils often contain spots generative of malaria; while large tracts of clayey soil are often as dry, and, therefore, as healthy as the most porous ones.

Dr. Macculloch thinks that, if practitioners will attentively observe the phenomena presented in what are called unhealthy situations, they will find either annual fevers, or bowel-complaints, cholera, head-aches, periodical or irregular rheumatism of the face or head, tooth-aches, sciatica, tic douloureux, or other varieties of neuralgia, bilious affections, or some, or many, of what are vaguely denominated nervous complaints, the prevailing disorders of the said localities. And even if these should be absent, or the poverty or other circumstances of the people should prevent their making them known to the physician, still the sallow complexions, the languor, the irritable tempers, or the melancholy character, of individuals thus unfortunately situated, will, Dr. M. thinks, afford the observer sufficient evidence of the operation of malaria on the glandular viscera and general health.

Our author next adverts to a test of a very delicate nature, namely, the liability of persons, who have once suffered from malaria, to become again affected, when exposed to even a very trifling degree of the same. Thus, the sufferers of Walcheren are known to have experienced relapses in various parts of the world, and at various periods, after that fatal expedition. "Hence, therefore, when we find that such a person has experienced a renewal of his disorder, from communication with a place otherwise suspicious from its nature, it offers as convincing a proof as can be desired, that there, malaria is produced or producible." In such situations, the source of the poison may be so circumscribed, as not to affect people in common health; and this negative argument is often offered in favour of the local salubrity. Speaking of the unpleasant task of pointing out sources of malaria, Dr. M. observes:—

"My duty, as it is my design, is to make them known; let *he* (him) who has the power of convincing mankind that they have been in error, and that they are ignorant, undertake the other task. But time effects what man cannot; and hereafter, perhaps, an English gentleman will be as much surprised that his neighbour should dig a sleeping canal before his door, as that his feudal ancestor should have built his castle in a marsh, and enclosed it within a putrid moat.

"To suggest that he who does this is sowing the seeds of disease, that he may reap the fruit of fevers and apothecaries' bills, is to excite the smile of superciliousness or contempt; as he must long yet submit to be the object of both, who would try to convince mankind, that the pond which has been constructed for a few gold fishes, or the river which meanders through the woody valley, is a death-spring of diseases, or that the fevers and the tooth-aches which are the torments of his family, the ailing wife, who is own torment, and the sciatica which is the torment of his poorer neighbours, are the produce of a few bunches of rushes, or of a splendid display of water-lilies." 31.

We fear that there will be many who will look upon this doctrine as inclining a little to the visionary. Something must be allowed, however, for the style and ardour of language employed by the author. The matter should not suffer on account of the manner. Dr. M. considers, and not without probability, that the obstinacy of chronic diseases is often owing to the repeated application of their cause (malaria) rather than to any change of structure in the organs affected.

CHAP. III.—*Soils and Situations most productive of Malaria.*

This chapter is comparatively short, because it treats of localities, which are generally allowed, or, unfortunately, proved to be prolific of malaria. Marshes claim the first place, and salt-water marshes, especially in the warmer countries, are very properly considered by our author—and, indeed, by most other good observers, as equally pernicious with the fresh-water pools. The salt marshes of Dol, in Normandy, are notoriously productive of intermittents, so that scarcely an inhabitant escapes. The same is seen on the French shores of the Mediterranean—in the Adriatic—in Greece—Italy—Sicily—Sardinia—Spain, and a hundred other parts of the world, including both hemispheres of the tropics. Ever since the days of Sir John Pringle, indeed, it has been admitted, that an admixture of salt water with fresh augments the disposition to the putrefactive process, both in animal and vegetable matters. There is little doubt entertained by medical voyagers and observers, that the shores of coasts, and more especially of rivers, washed even by the sea-tide, are amply productive of the poison in question. The banks of rivers where palms and mangroves abound, have been always observed to give origin to bad fevers, fluxes, &c.

"There are few tracts in England more productive of a Malaria, which is even of a virulent nature, than Heron bay and the river banks in general about Reculver, where the water is salt, and the whole is covered twice in the day. The same, indeed, is true of so many parts of England, that the enumeration would be equally tedious and superfluous. Be the truth, however, what it may, in this case, it will be always the most safe belief to adopt the opinion, and to act on it; as the philosophical evil of the error, if it be one, bears no comparison to its value as a practical security." 39.

That woods and jungles, in hot climates, give origin to miasmata of the worst kind, is well known to all medical men; but some doubt may be entertained as to their insalubrity in Europe. Dr. Macculloch, while he suspects the said localities, admits that he has no positive evidence which he is able to bring against them. He thinks there is strong reason to believe that close and wet woods generate malaria in this, as well as in the warmer countries of Europe. Certain woody districts in Sussex and Kent produce both intermittent and remittent fevers—at least there is no other assignable cause. The same may be said of some parts of Hampshire and Essex, as about Epping Forest, for example.

On the other hand, we have positive testimony that lands which were healthy when covered with wood, have become extremely unhealty when cleared and cultivated. This has been often observed in America. It may be accounted for in several ways. The woods keep off the direct rays of the sun from the wet earth, and the trees may prevent the propagation of the miasmata through the air. When the woods are cleared away, and the earth turned up, the sun powerfully exhales the miasmata, and the winds waft them about in all directions. Reversely, it follows that the planting of trees will sometimes check the production of malaria, by protecting wet lands from the action of the sun. But it requires much circumspection in deciding on planting or clearing grounds with a view of rendering them more salubrious.

"To say that rice grounds are productive of Malaria, is equally to state a fact notorious to the whole world; while the causes, consisting in a succession of inundation and drainage, approximate them in character to swamps and marshes, however obscure the immediate operation of either in producing this poison may be. How extensively Italy suffers from this cause, it is quite superfluous to say; since the mortality in Lombardy, and elsewhere, arising from it, is matter of daily observation, even to the most incurious travellers. And the same is true of Greece and Sicily, as it is generally of Europe, wherever this grain is cultivated." 46.

Such then are the principal and undisputed sources of malaria, in the description of which it was unnecessary to be at all minute.

CHAP. IV.—*Of Soils and Situations less con-*

epicuously productive of Malaria, or as yet unsuspected of it.

This is the chapter which contains many views of the author which will, in all probability, be disputed by the critical tribe. We shall endeavour, therefore, to make our author as clearly understood as the limits of a review will permit.

To begin with a marsh or swamp. It is supposed that a certain *extent* of such locality is necessary to the production of disease. "This is an error; and it must be classed among the dangerous ones, as being productive of a false security." This is merely an argument as to the plus or minus of a poison. If a large tract of marsh produce a given quantity of malaria, this sum total must be an union of all the portions generated by its parts. And if, as is generally supposed, this poison be the chemical produce of vegetables acting on water, or water acting on vegetables, "then must every plant and fragment of a plant contribute its share to the deleterious substance." Dr. M. also observes that, as there is a certain analogy between malaria and the matter of contagion, and as we know that a quantity of the *latter* which is quite incognizable by the senses, and insensible to every chemical test, will produce its peculiar disease, so we have no reason to doubt the same effects from malaria.

"It would bear that analogy in this point, which it does to contagion in so many others, if a small quantity were as efficacious a poison as a large one; and there are reasons for supposing, practically, that this is the fact, since it is matter of observation, that a minute's exposure to Malaria, a single inspiration probably, and of a poison which must be far more diluted than contagions can ever be in the same circumstances, is sufficient to excite its fever, and, very notoriously, to re-excite it in those who are subject to that morbid sensibility derived from former or habitual fevers." 54.

From this and other matters of fact or observation, our author thinks he is justified in concluding that—"the quantity of malaria necessary to produce its peculiar disease or diseases, is undefinably small, and probably extremely minute." Although we are inclined to give our author every indulgence in the investigation of such difficult matters, yet we are here forced to dissent from him on a most important and fundamental point. It is universally acknowledged, that we are totally ignorant of the nature of marsh or human effluvium, and only know them by their effects. The observation of these effects would induce us to believe that the *quantity* of human contagion—for instance, of syphilis, small-pox, &c. is of little consequence, whereas the *dose* of marsh miasma is every thing. A man may stay twelve hours on the source of a most deadly miasma with impunity; but let him stay four or six hours more, and death will be his lot. This has been proved at Batavia, the Pontine Fens, &c. During the day there is little danger; but in the night, the poison is almost certain of its victim. To the following passage we must also object.

"Could this admit of doubt, or should those who have made no observations, or who are incapable of observing, choose to deny the well-known facts now alluded to as evidence, it would be proved by the great distance to which Malaria travels through the air without losing its poisonous quality. Not to dwell here on examples which must be adduced hereafter, it is quite familiar that from any known and often very limited spot, this poison will proceed through the air, or on the winds, to distances of three or four miles, exciting as much virulence as in its native marsh. This, to quote a familiar domestic example out of a hundred that might be adduced, occurs on the hills of Kent, far from the marshes of Erith, Northfleet, or Gravesend; and it is easy to see that whatever was the body or quantity of Malaria in the original place of its production, or whatever portion of atmosphere it occupied over the few acres by which it was produced, it must often, in such a course, have been diluted to a degree so incomprehensible, that while we can only wonder how it should exist at all as a distinct substance, or a chemical compound, even more must we be surprised that it should be capable of producing its peculiar diseases, with an activity as great, and often greater, than it did at the very point of its birthplace." 55.

How does the above comport with the well-known fact that our ships moored close along the banks of the Scheldt entirely escaped the fever, while the soldiers quartered within half a cable's length of them were all affected with the endemic? The same has been observed in hundreds of other places. We do not say that miasmata are not carried along by the winds; but we do maintain that they are *weakened* by the dilution, in as nearly a ratio to the distance carried as possible. How is Dr. M. certain that the hills of Kent do not generate miasmata, seeing that the hills in other parts of the world are not exempt from such productions? Nothing is more common than marshy spots and even stagnant water on the tops or declivities of hills—while at their bases, springs of water and plashy grounds are invariably found. The marshes of Erith, Northfleet, and Gravesend, may not then be guilty of producing fevers on the distant hills of Kent. We doubt whether the following conclusions will be admitted by the professional public, although Dr. M. seems convinced that he has reduced them to a kind of arithmetical certainty.

"The conclusion is obvious; and there is nothing in it which seems to admit of dispute, since it is almost a question of arithmetic. If the produce of a hundred square feet, or acres, or of any scale and number of parts, can, under a dilution of one thousand or ten thousand times, excite disease, then must, in the inverse ratio, the produce of the one-thousandth, or the ten thousandth portion of that space be capable, before dilution, of producing the same

effects; or a single blade of grass acting on water (if this be the cause) may be as efficacious as an acre; supposing, of course, that it is actually applied to that part of the body which can suffer from its action." 56.

Dr. M. next proceeds to an analysis of what a marsh or swamp is. This varies much in its obvious aspect, according to the nature of the plants which form its vegetation—these last being considered, however diversified in kind, as mere vegetables, living or dead—since we do not know that the different kinds of vegetables make any difference in the kind of miasmata, though this is not improbable, considering the great variety of elements which enter into their composition, and the different actions which they induce in the animal body. This, however, is all conjecture, and we must trust to future investigation of the subject.

"But to pass from this; the essential character of all marshes and swamps, as far as we yet can decide, is, that the land should be partially inundated, that it should be dry in some places and wet in others, or that pools and dry spots should be intermixed, or that it should be boggy and soft from the mixtures of earths and decayed vegetables with water, or that it should be subject to peculiar alternations of moisture and dryness, sometimes amounting to absolute inundation in the first case." 61.

Dr. M. remarks that the miasma in question is not produced "by the mixture of decomposed and subcarbonized vegetable matter and water, since it is notoriously not produced by dead peaty bogs, or by *peat which carries no vegetation.*" If Dr. M. had been locally acquainted with some of the immense bogs in Ireland and Scotland, he would know that, on their surface, in the Summer time, there is the most luxurious vegetation, most part of which decays and dies in the Winter—yet *there*, an ague or intermittent of any kind is rarely seen. In such localities, then, there is abundance of living vegetable matter in contact with water during the Summer—yet no miasmata are generated. In Winter, the vegetation dies—and still no morbific effluvium is generated. The conclusion which we would draw from this circumstance is this, that, during the *Summer*, the surface of peat bogs is all *life*, and consequently the pabulum of miasmata does not exist—while, *in Winter*, when the decay or death of vegetation takes place, the *temperature* is unfavourable to the production of the said malaria, and thus the people residing on or near these bogs are fortunately preserved from any insalutary influence.

Recurring to the case of marshes, our author labours to show that this peculiar contact between a living vegetable, or a vegetable in an incipient or somewhat advanced state of decomposition, and water, does take place in many situations that are not marshes, in the popular, or in any sense of the word;—and, consequently, (if this be granted) that a thousand places hitherto unsuspected, are capable of exciting the disorders which result from malaria.

Now, that this peculiar state of vegetation, not only as to the appearance and character of the soil, but as to the mode of growth and death, and the very nature of the plants themselves, does occur in numerous situations that are not marshes, is the point to be proved, and is a point indeed that will require no proof to almost the most superficial observers; no proof assuredly to botanists, whatever it may to medical men; not often even to the observant inhabitant of the country, whatever it may to the limited man of towns and cities. If the botanist will recognize the spots in question by the nature of the plants which attach themselves to such soils, if the growth of an Iris, an Equisetum, a Hydrocotyle, points out to him what the farmer sees, though less acutely, in tufts of rushes, or traces by the coarseness of the pasture or the canker of a tree, it is the latter who will know every spot of land about him which asks for drainage, where he to whom these pursuits are strange, will seek in vain, even should he, as a physician, be engaged in investigating this very question in a medical view." 64.

It is a popular opinion, he observes, that the rushy pools and petty swamps so common in high moorlands, are innocent. The fact, he avers, is not so. He has seen intermittents in Wales, and at considerable elevations, in those very situations. The following is an example.

"A considerable body of labourers were employed in excavating a pond on a moor of this nature, situated about a thousand feet above the level of the sea; and in the course of the work, within a very short time, nearly one half were incapacitated by the ague." 67.

Dr. M. is convinced that the minute marshy or swampy spots which occur in thousands of low situations, whether on commons, near woods by road sides, or in innumerable other places where they scarcely or never attract notice, are similarly productive of malaria, though their limited range of action generally renders their power in this manner insensible, unless when houses happen to be erected in their vicinity. In how far meadows are capable of producing malaria, he is not completely able to say. Being often intersected by drains and ditches, the miasmata may be generated by these last, instead of by the including land itself.

"I cannot hope to clear this question by an exact definition; but, taking the term in its usual lax sense, it appears unquestionable that there are many tracts of meadow, or of alluvial land, not marshy, and often not intersected by ditches, at least in a conspicuous manner, which are the sources of Malaria all over Europe." 69.

Such, he observes, is the case with the alluvial tracts at the entrances and sometimes at the exits of the lakes of Switzerland and elsewhere, and in places innumerable where there is no proper marsh, nor even an approach to such a character, but where the prevalent diseases must be owing to malaria.

Volney, who could have had no theory to support, has averred, while travelling through America, that every valley in the country

which he visited, produced the fevers of malaria, enumerating among the sources of this poison, not only marshes and woods, but rivers, mill-ponds, &c. Reverting again to the subject of meadow land, Dr. M. observes, that a fruitful source of miasmata may probably be found in "that drying, during Spring and Summer, which follows the moist or wet condition of such meadow lands, as they are left by the Winter rains." A striking example is given in the lands about Fontainbleau, at the junction of the Yonne and the Seine, notorious for the "*fièvre du pays*," so injurious that few escape intermittents or remittents over a considerable tract, for which there is no other ostensible cause but the meadow lands, which are inundated or soaked in Winter, and exsiccated in Summer. Wherever, therefore, the temperature be sufficiently high, he thinks this will be found a productive source of malaria in all countries.

If some great tracts of meadow land in England have been recovered by drainage from a state of marsh, and are now as dry as the ordinary low lands of plains and valleys—and if these localities still produce malaria and its consequences, it is another point of evidence against the salubrity of meadows generally.

"This is true of the meadows which border the Thames, not only beneath London and through their whole extent, but above it; which, though often retaining the name of marshes, because once marshy, are now as dry as the common meadow lands of inland valleys and plains. It appears to be the fact also in many parts of Cambridgeshire and Essex, and, among others, in the vicinity of Waltham Abbey; as it also is in Kent, in the Isle of Thanet, in Somersetshire, in Lancashire, in Huntingdonshire, and far more commonly indeed than it is necessary or convenient to enumerate. Thus it also was, even in the Carse of Gowrie in Scotland, until that great tract of alluvial meadow was brought into universal cultivation; and this may perhaps serve to prove that the meadow land itself, and not the ditches, was the cause, because the latter remain, while the grass has been succeeded by almost universal crops of grain. And it will be found, in confirmation of this, in France and in Flanders, and probably far wider than I now know, that where tracts bordering the same river, or in any other respect exactly similar, whether in soil or situation, are, respectively, cultivated with grain or kept in grass, there the production of fever or of Malaria is correspondent; occupying the uncultivated lands so as to produce what is popularly called the *fièvre du pays*, as if it was a necessary part of the order of things, and flying from those that have been ploughed for a grain cultivation." 75.

Dr. M. observes, that it is a rooted opinion in England that there can be no malaria on the banks of a running stream. As far as mountain torrents are concerned, this is probably true; but, where rivers slowly meander through low grounds, we must not trust to the mere motion of the water. We know, indeed, that the banks of rivers, in hot climates, are truly pestiferous. In those portions of rivers where the tide of the Ocean reaches, as, for instance, along the Thames as far as Richmond, Dr. M. thinks that malaria must be generated by the exposed mud, at each recession of the tide.

"Whatever doubts may still exist as to rivers in general in our own country, in this case, there is no reason whatever to doubt that such streams as the Ouse, the Lee, and all others flowing with similar difficulty through fertile meadows and with a flat vegetable margin, are productive of Malaria, because the diseases which attend it are common in all those situations." 79.

Dr. M. considers those small streams which flow through gentlemen's grounds "almost like artificial canals," bordered by thin and grassy margins, as productive of disease, however the popular opinion may be against such insalubrity. The same observation applies, *à fortiori*, to canals, which are intermediate between a sluggish river and a stagnant pool, their margins possessing, or being capable of possessing, all the essential qualities of a marsh, "as a diminution of their waters may expose mud impregnated with vegetable matter." This, the Doctor observes, is the point which we must always have in view—"it is the analysis of the whole question."

"If it is not putrefying mud, it is the marshy spot, the peculiar vegetation, or death of vegetation, carried on at a certain point of vacillation between earth and water, which is the generative cause; and, while this may exist in a hundred different characters of ground or situation, and while further it is not essential that bulk or space should be present, it is easy to see that the business of investigation is, in reality, reduced to a very simple principle; for those, at least, who are gifted with the powers of observation and generalization. Let this fact be ascertained by a due examination of any spot, and the probability, at least, of Malaria is established: let it further be ascertained that certain diseases do belong to those situations, taking care also to prove that they are endemic or local, and the fact of its production is determined." 82.

Our author again passes in review the insalubrity of canals, ditches, drains, privies, moats, &c. Speaking of the late fatal endemic which scourged the unfortunate inmates of the Millbank Penitentiary, he says:—"not the slightest doubt ought for a moment to have existed, either with respect to the cause or the disease." A remedy, he remarks, was sought "by letting in that malaria which it should have been the object to exclude or else destroy." The ditches surrounding fortifications afford our author, of course, ample field for supporting his favourite doctrine—especially the fortifications of the low countries. The following passage in respect to lakes, is not devoid of interest.

"But it must also be said in explanation, (a view which is important, as it concerns all waters of this nature, even to pools,) that in France, it is supposed that the Malaria is not solely produced by the vegetating marsh, but

is disengaged from the mud which the summer leaves dry, (a fact which I must notice again) and that it also escapes from the bottom and through the water, accompanying the air which is so notedly extricated in those cases. And in confirmation of this, it is said, that while such pools retain a considerable depth of water, or whenever their banks are steep, no Malaria is produced, but that it appears in the reverse cases, or, either on the diminution of the water in depth, or on its retiring from the shores. The same facts, I should observe, have often also been noticed in the West Indies; while a very strong case, illustrating this particular cause, is stated by Senac, in France, where, in a town previously unaffected by fevers, a violent epidemic was produced, in consequence of an unusual evaporation which exposed a large portion of the bottom of a lake. From these facts it is an obvious inference, that in warm climates, at least, whatever may be the case in our own, tranquil or stagnant water is unsafe in any form, and that a vegetating margin is not rigidly necessary to its pernicious qualities; though it cannot be doubted that the evil is materially diminished by cutting off this additional source of Malaria." 98.

It appears that the present alteration in the canal of St. James's Park, is the suggestion of Dr. Macculloch—but the Doctor's fears are far from being hushed by the amendment which he proposed—"since it is notorious for the abundant produce of aquatic plants, causing in Autumn an even insufferable stench."

"Whether the pond in St. James's square also, forming so refreshing a receptacle for its statue, claims the same English exemption or not, must be decided by Monfalcon; as I am not courageous enough to think that such an Italian substance as malaria can exist in the centre of the English capital." 101.

Dr. M. remarks, that "to prove that mill-dams, though transmitting large streams, ought to be injurious, from the frequently marshy nature of their margins, would be to repeat what has been said before, respecting the *priori* proofs on this subject in general." About the iron district of Glamorganshire, he informs us, there are numerous large mill-dams, for the supply of machinery; "and there is not one of these, in the lower grounds, which is not notoriously attended by the endemic ill-health of all the immediate residents and visitants, consisting in the diseases already mentioned." Of these, neuralgia, he states, is a very common form. These local exceptions to the general health of the surrounding hills and dry places, are peculiarly remarkable, and have attracted the attention of the inhabitants themselves.

As it is incumbent on medical men to attend to medical topography, and thus to put the doctrines of our author to the test of experience, we shall dwell more on localities than we otherwise would have done, in order to excite the attention of our readers to this important subject of investigation. A mill-dam, he says, at Southend, near Lewisham, affords a striking example, though on a small scale, while it is also an instance applicable to fish ponds, and other kinds of still water similarly circumstanced.

"Here the poorer inhabitants in particular, are notedly subject to intermittent as well as autumnal fever, while they bear marks of glandular visceral affections, and are reported to die of the consequences of those disorders. To have seen the fit of intermittent invariably produced in a susceptible individual by an approach to this pond, hundreds of times, and always within a stated distance of time from the approximation, completes an evidence which cannot be controverted." 105.

In farther illustration, Dr. M. instances the valley of the Ravensburn, with the communicating low lands, including the villages of Lee and Lewisham. There is a peculiar physiognomy, he remarks, attached to all such places, which renders it easy to distinguish them.

"I may here add another instance, from the mill-dam of a paper-mill in Hertfordshire; after the formation of which, the workmen became subject, in a most serious degree, to remittent fevers, which were, before that, unknown; and as the ground in this particular instance resembled that of an ornamental park, as did the water itself, it may suffice to prove what I have advanced on that particular subject; although it would be easy to confirm this by analogous instances adduced from many of the dressed pleasure grounds ornamented by water, which skirt the Thames, near Walton and Chertsey, and which occur also in a hundred other places: the produce of a well-known improving gardener, or else of his progeny; to the demerits of whom, as the sources of an endemic disease of English landscape, far, very far yet from being extirpated, an eruptive contagion blotting our fair island, it is no small addition that they have, in founding ponds which their vanity mistook for rivers, and in converting rivers into Dutch canals, brought the intermittent to our doors under cover of the breeze of the violet, and formed pest houses of fever where we study to retire for coolness from the heats of the autumn. This is to manufacture a Batavia, in defiance of nature; to court disease through deformity and expense; the evil less, it is true, but of the same kind, and incurred as certainly." 106.

The above is another fair specimen of the style and manner of our author, where he aims at being peculiarly impressive through the medium of unconscionable sentences—a single one of which just occupies *a page* of the original work in the foregoing quotation.

Dr. M. here instances a spot in a high, and formerly healthy part of Hampshire, where a clear and quick stream was dammed up, not long ago, for ornament and use. The immediate consequence was, the production of evening mists, before unknown—and the result was, autumnal fevers. Dr. M. never lets an opportunity slip of levelling a sarcasm at the *country apothecary*, though a better acquaintance with that class of medical practitioners would have taught him, that they *think*

just as much as, and probably more than, their brethren in towns and cities.

"A French or an Italian *physician* would be at no loss here in deciding; but the *English apothecary*, having no term but typhus for a destructive fever, decides accordingly; never questioning himself as to the origin of the contagion of which he dreams, nor ever recollecting to wonder why it should not spread to the attendants, when the patient is covered with petechiæ; and thus the public goes on, creating more mill-dams, more fish-ponds, more fictitious rivers, and, after the models of Brown, more fevers." 107.

We are not among those who flatter, for base purposes, one class of the profession at the expense of another. There is a mixture of ignorance and intelligence in every class—and all sweeping conclusions, that would represent one class as dolts and another as angels, are necessarily unjust, as well as ungenerous.

Here our author quotes an instance, (doubtless in his own person) where the recurrence of an intermittent fever, in a susceptible subject, was caused repeatedly, "*by merely entering a garden, containing a pond of the fashion of King William's day, dedicated to gold fishes and river gods.*"

With such a rare degree of delicate susceptibility, Dr. M. would prove a most valuable miasmometer, and as such, might render essential service to the government, as well as to families, in ascertaining the salubrity or insalubrity of various localities, before they are selected for public establishments or private residences. Dr. M. relates another instance, which happened at Woolwich. There was a small pond occupying an old gravel-pit on the common, close to a house belonging to the late Dr. Hutton, and occupied by General Stehelin—its whole extent being but a few square yards. It was remarked for a long course of years, that the inhabitants of this house were perpetually harassed with agues; and it was not until this pond was destroyed by improvements in the common, that the disease disappeared—for ever. Dr. M. has no doubt that the occurrence of ill health, in numerous places where the gravel pits of commons are filled with water, is the consequence of this very cause; and that, in reality, those situations about London, &c. so often selected for the supposed salubrity of their gravelly soils, "are very general, and not less unsuspected causes of ill health." What will the rosy-cheeked inhabitants of Putney-heath, Wimbledon, and Hampstead say to this? There is no doubt, however, that, in all these places, *agues* have actually shown themselves this very year (1827); but then the said complaints have prevailed in every county of England, and in almost every street in London. There is something more, in our humble opinion, than stagnant water or decaying vegetables to be taken into account in explaining the production of epidemics. We apprehend that Sydenham was not far wrong, when he suspected an invisible morbific agent, springing from "the bowels of the earth." Still there can be no doubt that the causes forming the subjects of investigation in this Essay, do ordinarily work the effects ascribed to them by Dr. Macculloch.

To the inhabitants of London, our author could easily point out numerous places, even in their own vicinity, illustrating these several causes, but the remarks already made will enable every medical man at least, to investigate the topography of his neighbourhood—his autumnal practice being a good index of the quantum of malaria disengaged from the soil at the time.

It has often been noticed, in various parts of the world, that the breaking up, for the first time, of pasture lands, is attended with sickness. The evidence on this head is as abundant as it is unquestionable. Volney, Nash, and fifty other authorities, might be cited in proof.

"Why this should be the fact, if it cannot be very precisely explained, is not at least more difficult than most of what else belongs to this subject; since there is a quantity of vegetable matter killed, and therefore submitted to decomposition; and it would be well worth the trouble of those whose local situations give them the means, to inquire whether this, and many other analogous agricultural processes, now little suspected, are not the causes of the fevers which sometimes appear in rural situations in such an inexplicable manner, when these cannot be better accounted for by stagnant waters of various kinds, or by such neglected spots as I have here been pointing out. The remark is of value, be the solution what it may; because the remedy will be found in breaking up such lands in June, or in May, if the summer be the necessary period, or, what is preferable, in the middle of winter; since the decomposition will then take place at a time in which experience has shown that Malaria is scarcely generated in our own country, nor indeed, generally, in Europe. In the case of lands recently recovered by drainage, this precaution is peculiarly deserving of attention, because in this case the danger is greatest; and the same is equally true of woods, the mere felling of which sometimes disengages or produces Malaria, as is a much more certain consequence where, as in America, and as I have elsewhere noticed, these woods are broken up for cultivation." 113.

The same observation applies to drainage as to tillage. A swamp may be too wet to produce miasmata—and a certain drainage may just bring it into that state which is peculiarly favourable for the extrication of the unknown poison. This appears to have been the case with the Campagna di Roma, as far as the facts can be ascertained by comparing the different accounts of Italian writers. The most pointed instance, however, is that of the marsh of *Chartreuse*, near Bourdeaux. A succession of bad fevers, before unknown, showed themselves immediately after the drainage of the above marsh, first in that part of Bourdeaux

which lay nearest to the land reformed, and afterwards through the whole of the town. These fevers lasted for many years, and proved so severe in 1805, that 12,000 people were affected, three thousand of whom died in five months!

"It is not difficult to understand that a swamp in which the water is so deep as to impede the growth of as many plants as a drier surface would carry, will produce proportionally less of the poison in question; and that a similar diminution or under proportion of Malaria will attend such a tract of land if it should contain many pools or spots divested of all vegetation. In such a case, we can conceive a certain state of drainage, such as to increase the vegetating surface, without being at the same time complete enough to check the production of Malaria; or a small quantity of poisonous marsh might thus become a large surface of wet and noxious meadow land." 115.

Dr. M. touches on the obvious difficulty resulting from the well-known fact that malaria, as ascertained by its consequences, does obtain in some places perfectly dry and gravelly. Our author says that, before we admit this to be a fact, we should be very certain that, in these instances, the malaria is not transported from other places—or that, in such dry places, there are not ditches and drains left from the operations necessary in rendering the ground dry. This does not, in our opinion, clear up the difficulty, as there are unhealthy places where none of the latter exist, and where there is no ostensible source of morbific effluvium within any reasonable distance.

In a chapter respecting some anomalies and inexplicable instances of salubrity and insalubrity, we were rather surprised to read the following passage:—

"But there is one mystery for which I can conjecture no solution, while it rests on great authorities, and while every imaginable circumstance is present that ought to render the land in question one of the most pestiferous spots under the sun. It is a collection of jungles and woods and marshes and rivers and sea swamps, and it is a flat land under a tropical sun, and it is the land of monsoons; and yet it is a land where fevers are unknown. And this land is our new settlement of Singapore. I dare not attempt to controvert such testimony, and must try to believe what I cannot understand: but others may, for aught I know, be inclined to suspect that some favouritism, not perhaps inexplicable, has dictated this report," 138.

We can relieve our author from the dilemma in which this new settlement has thrown him: Sincapore is *not* a collection of jungles, woods, marshes, rivers, and sea-swamps; but a cluster of high rocky islands, in the midst of an azure sea, and under a sky that is seldom darkened by a cloud. There are no marshes or swamps in the neighbourhood, and the change of the monsoons is not marked by those storms and tornados which occur in other parts of India. The straits of Malacca and Sincapore were always looked upon as the Montpellier of India. Dr. M. may therefore consider that one of the horns of his dilemma is broken off.

Our author next proceeds to notice certain other sources of malaria than marshes or marshy grounds; and among these the putrefaction of vegetable matters takes a leading rank. The first instance quoted is the process of soaking hemp and flax, the offensive nature of which is well known.

"Of pointed facts beyond number, related both in France and Italy, we find in Lancisi, that numerous severe epidemics in the latter country have been traced to these operations, and, among the rest, a noted one at Ferentino, and another at Orvieto, which lasted many years. In the former country, out of similarly numerous cases, severe intermittents broke out in the plain of Forez in 1823, after October, (a very rare occurrence,) and were traced to this cause; and we have the assurance of M. Bourges, that it is invariably pernicious, while he describes one very marked case where fevers occurred in a dry, sandy, and otherwise healthy and elevated situation, being regularly renewed with the steeping and drying of the hemp; and disappearing when that season was over." 141.

In Germany, where this manufacture is extensively carried on, it has been often proved that fevers, and those of a very bad kind, are the result:—a fact which, Dr. M. thinks, tends to establish an opinion elsewhere broached, that the nature or severity of fever may be considerably dependent on the nature of the particular malaria, or the quantity in which it is applied. A more accurate train of investigation, he thinks, may probably detect many sources of malaria, of this kind, of which we do not now dream—as, for example, in garden dunghills and the like. He attaches some suspicion to the decomposition of the wood of casks in which water is kept on long voyages, or on shore. He sees no reason to doubt that the wood, in such instances, should generate malaria by its decomposition, as well as the woody elements of herbaceous plants in general. The same suspicion attaches more strongly to bilge water—especially where there is a mixture of various matters in the ship's hold, as, for instance, where there is a leakage of sugar. The writings of Bancroft, Dickson, M'Arthur, and others, have completely established the important fact that fevers of the most malignant kind have been generated by the action of water on various materials in ship's holds.

Among the intricacies and difficulties attending the investigation, our author has appropriately placed the comparative healthiness of ancient and modern Rome.

"The ordinary conclusions of natural history will determine, in the first place, that the site of Rome, as well as the surrounding country, must, at its foundation, have been a tract of woods, lakes, and marshes; and, that such a territory must have been productive of fevers, appears an inevitable consequence. In spite of this, the city flourished and increased,

while the surrounding country was also filled with a populous distributed in hamlets and villages. The plain of Latium for example, which is now a desert, was, at that time and long after, rich and populous: and thus also the lake of Castiglione, now infamous for its pestilential air, was the seat of a powerful city which long resisted the arms of Tarquinius Superbus. The ancient Latium was also situated near a marsh which is now one of the most destructive spots in the district: and the Romans erected baths beyond the Anio, in a place which is, at present, too hazardous even to be visited. The Lago di Giuturna was a favourite spot with the ancient Romans, yet in later times it rendered Castel Fusolillo uninhabitable, and was therefore drained in 1611, by Paul V. In the time of the Tribuni there were twenty-three towns and villages in the Pontine marshes, of which Ardea and Lavinium were two. But as it is unnecessary to accumulate more of these specific facts, I shall only further remark, that history confirms what might have been inferred from general considerations, namely, that the country round Rome was in ancient times interspersed with what were called lakes, and which were, in fact, chiefly marshy pools, as must necessarily be the character of accumulated water in a country of such a form and distribution. And these tracts, which were then populous and flourishing, are now uninhabited deserts: although the lakes and marshes have comparatively disappeared, under different attempts at drainage, attended by various success." 163.

In respect to the Everlasting City itself, in that early period, the facts are similar, and the conclusions not less puzzling. The whole site of ancient Rome formed, as can scarcely be doubted, "a focus of malaria and fevers." Yet the city, as well as the surrounding country, increased rapidly in population. Thus the first census by Servius Tullius produced 80,000 citizens capable of bearing arms—while we find that Ardea alone, which now reckons 600 inhabitants, was then able to raise an army sufficient to resist Rome, and also to send a colony to Sagunium. Gesa, now inhabited by a single innkeeper, became a flourishing city soon after its foundation by Ancus Martius. These are some of the puzzling facts which history has left us to unravel. Whether the production or the virulence of the malaria has increased in modern times—or whether the ancient inhabitants had means of resisting its influence which the moderns have not—are the questions which remain to be solved. It cannot, our author remarks, be safely asserted that at any period of the history of Rome, the city and neighbourhood were free from malaria and its consequences—indeed, there is strong reason, he thinks, to believe that it was as poisonous then as it is now—"though the apparent effects of the political consequences were less severe."

"It may be thought indeed, that as to some parts of this district, if not to all, the evil has really increased in modern times, not solely from the decay of agriculture among from that injudicious political management as to corn laws, so often blamed, and from other analogous causes as often discussed, but from geological changes as to the form of the land itself: and of such facts and their consequences, to a certain extent, there seems ample proof. The joint action of the sea and the rivers will, in the case of the Pontine marshes, easily explain a change on this important point, fully adequate to an increase of the evil: and reasoning of an analogous nature may be applied, under modifications, to more inland districts." 167.

Dr. M. thinks it not unimportant to remark that, as stated by Theophrastus, the plain of Latium was covered, especially towards the sea, by forests of laurel (bay) and myrtle of such a size as to be used in ship-building—"constituting, doubtless, screens to protect the country from the pernicious southern winds, and to check the propagation if not the production of malaria." Dr. M. thinks the ancients well knew the value of this expedient, and that much of the evil was thereby warded off—hence the sacred characters of groves, and the heavy penalties denounced against those who destroyed or injured them. This explanation we cannot help looking on as very doubtful. It is highly improbable that the Romans, in that time of day, knew much of the nature of marsh miasmata, or the means by which these mysterious agents could be counteracted or avoided, notwithstanding the observation of Pliny that groves absorb and destroy morbific vapours. We think there can be little doubt that great changes in the climate (we mean territorial) of Rome and its vicinity have taken place within the last two thousand years. We see places entirely changed in the degree of their salubrity or insalubrity, within the short space of a few years, of which we may instance Prince of Wales' Island in the Straits of Malacca, and St. Helena, in the middle of the Atlantic. Both of these places became very unhealthy a few years ago, though previously

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* When we contemplate the millions of myriads of human and other living beings which have mingled with their mother dust in Rome and its vicinity, since the days of Romulus and Remus, it is not a very extravagant figure of fancy to imagine that almost every particle of earth under the feet of the present inhabitants, has been once endued with animal life, and therefore that the vegetables on which the Romans feed spring up from, and are nourished by the ashes of their forefathers! There is something in the thought which makes one shudder, and suggests a fear that Nature herself affixes an ultimate limit to the congregation and residence of huge multitudes of human beings in any one spot of this earth's surface, however favoured may be the locality in all other respects. The final operation of "zero reverens," then, is one of the many "wrinkles of human wishes," at which Nature smiles, and dispenses in empty air!

they were the refuges of invalids on account of their peculiar salubrity.

The first great territorial change in the Roman vicinity appears to have occurred after the invasion of Attila, when the Tiber broke loose, and the Campagna became a marsh. The drainage was renewed under Theodoric; but, on the expulsion of the Goths, this tract was again neglected, and fell back into the same state. Various attempts were subsequently made on the Pontine Marshes, yet with little success. But, whatever may be the difference between ancient and modern Rome, in the degree of insalubrity, there can be no question that malaria prevailed at an early period, as well as at present. Solinus and Dyonisius inform us, that the first settlers were obliged to abandon the Palatine Mount, in consequence of the pernicious exhalations of the Velabrum; and Columella states, that the land near Tusculum, cultivated in the first Punic war, was pestilential—"the malaria of that tract being probably produced by the present Lago di Castiglione." Dr. M. thinks it probable, that the larger proportion of the pestilence described by the Roman writers, were unusually severe visitations of the marsh fever, though it is not impossible that some of them were contagious diseases. Livy informs us that, in the short period of 173 years, viz. from 287 to 460, A. C. there occurred nineteen distinct plagues, none of them at longer intervals than seventeen years, and some lasting two or three years together. This fact alone, says Dr. M. renders it impossible not to conclude, "that the *fever of malaria* must have prevailed then in as great severity as it does at present." We do not see this inference so clearly as our author. The nineteen distinct visitations, with intervals of seventeen years or so, look more like contagious diseases than malarious fevers. Why the long intervals? Why the continuance of an epidemic for two or three years? These are not the characteristics of the modern malaria of Rome. Rome is healthy in the Winter and Spring—sickly in the Summer and Autumn. But when a contagious malady enters a city, or is generated therein, we know not what may be its duration. Dr. M. does not seem to contemplate the possibility of a disease becoming contagious which had arisen from malaria; yet there are few facts in medical science better established than this. It is a phenomenon, too, which explains many things that are otherwise inexplicable.

In the time of the Republic, we have the direct testimony of many writers, as to the existence of malaria. Cato mentions places where it was impossible to live, on account of the badness of the air; and Livy speaks of tertians and quartans. Varro, with more of the jew than the philosopher about him, advises the proprietor of an unhealthy farm to sell it at any price. The early and continued attempts at drainage render it highly probable that one object, at least, was to improve the salubrity of the soil.

Our author hazards a conjecture as to the cause of the great difference in the extra-urbal population in ancient and modern times. He remarks, that, in the same soil, and under the same degree of drainage, a tract of land under the plough is less injurious than in pasture or meadows, "whence it is possible, that the greater salubrity of ancient times was in effect of a cultivation, forced or demanded to a greater extent by the superior political condition of Rome at that time." This is extremely probable: while we may bear in mind, that the ancient Roman population was in a state of wealth and power, which would always attract multitudes from the four quarters of the globe to fill up the vacancies caused by disease. Thus, although Egypt was never without its plagues and its fevers, yet a vigorous government and an industrious people contrived to maintain, in spite of them, a condition of population and wealth which has failed only under the more exterminating malaria of Turkish ignorance and despotism. The same reasoning will apply to Venice, which is fast hastening to the same fate. It was long noted, even in modern times, for its peculiar salubrity; but "is now rapidly undergoing a depopulation, in which disease, formerly unknown or unnoticed, is taking its share."

The sixth chapter of the very interesting work under review is dedicated to the consideration of those revolutions and changes which take place with regard to the production of malaria. Many of the topics, however, have been more or less anticipated in the preceding pages. The simplest and the best known case of diminution of malaria, is that which arises from the drainage of marshes, swamps, and fens. To this measure, both governments and individuals have always had recourse—and this is the great change to which we must attribute the improvements of our own island, as well as of many other countries on the Continent. In tropical climates, little has been done in this respect.

"It is from casual reading of various kinds indeed, that we must ascertain the prevalence of fevers and intermittents during the ruder periods of our history, but when we can, by receding upwards from our own time, discover a gradually greater prevalence of such diseases, and when we find the melioration, reversely, following very accurately the progress of agricultural improvement, the whole conclusion appears to be amply justified." 131.

The local instances are innumerable. The agricultural improvements in Lincolnshire, for example, have been closely followed by a proportionate diminution of the diseases of malaria. But, in low countries, the drainage is difficult, and although the insalubrity is lessened, it is not annihilated. This is the case in Lincolnshire, Holland, and many other places. Indeed, the drainage may obviously be sufficient for the purposes of agriculture, but ineffectual for the eradication of malaria.

The overflowing of rivers reverses the scene, and gives an increase to the production of malaria. And here our author offers a very ingenious and satisfactory reason for one mode

of the said increase at the embouchures of rivers. It is this. All rivers bring down more or less materials from the mountains and countries through which they flow. These deribs or alluvia are deposited at the mouths of the said rivers, and, by raising the bed of the stream at this place, cause occasional inundations of the neighbouring grounds, and thus lead to the formation of embankments. But the bed of the river still continuing to rise, the adjacent grounds at length become considerably below the level of high water, and then drainage becomes more and more difficult, with a proportionate increase of malaria.

"Thus they tend to raise the water in its bed, and, consequently, to cause it, on any increase, to overflow, still more certainly, the lands around. And as this effect is the very consequence of the embankment, so, at any given point, the bank must be made to keep pace with the rise of the channel, that the restraint may be effectual and constant. Hence as the river becomes more elevated, the ultimate result is the same as if the surrounding lands had been depressed to the same amount: and thus, while the stream which drained them once can drain them no longer, they become, first, meadows, and ultimately marshes. And if, in the former condition, they can still be drained by means of canals and floodgates, this process becomes in time inefficient, and recourse must be had, as in Holland, to lifting machinery." 199.

There are many causes of those revolutions which take place in the salubrity or insalubrity of countries or local districts. Changes in the mutual level of the sea and land, ascribed by geology to the subsidence or elevation of the latter, as connected with the cause of earthquakes, are a fruitful source of the said revolutions. But we need not dilate on these topics. The reader anxious to gain farther information will consult the work itself.

This brings us to a natural division of the investigation, and to the middle of the volume under review. Our analysis could not be conveniently contained in one article, and, therefore, we shall defer our conclusion of it till our next number; when the propagation of malaria—the climates and seasons most favourable to its production—the geography—the nature of malaria—and, lastly, the general effects of this poison on the human constitution, will be fully considered.

We cannot close this article, however, without expressing our admiration of the industry and research by which Dr. Macculloch has collected together a most astonishing mass of information on minute points of medical topography. The manner in which the local descriptions and details are given, induced us to think, that a great proportion of them were collected on the spot by our author in person; and we were not a little surprised to learn from a gentleman, while writing these lines, that Dr. M. has travelled very little indeed. We verily believed that he had traversed half the globe in quest of the materials which he has collected, and that, in Italy, at least, (the emporium of malaria) he had not left a foot of the Campagna di Roma unexplored. This does not derogate from his credit; and we will say, that Dr. M. has travelled round his library to some end. He has there seen more than we have seen in 20 years perambulations round this earth. In our next number, we shall present our readers with a summary of the remaining chapters in Dr. Macculloch's work, which we have no hesitation in recommending to the attentive perusal of the Profession, as a volume abounding in matters equally curious and important.

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ON THE PHYSIOLOGY OF THE IRIS.

By Egerton A. Jennings, Member of the Royal College of Surgeons.

Physiologists, in their attempts to account for the motions of the iris which produce contraction and dilatation of the pupil, have generally adopted one of the two following theories: either they have supposed the iris to be composed of two sets of muscles, one arranged circularly, whose contractions diminish the aperture of the pupil; the other composed of straight fibres, whose contractions dilate the pupil: or else they have supposed the substance of the iris to be an erectile tissue, its dilatation or contraction depending on the quantity of blood circulating through its vessels.

There are, however, numerous facts that cannot be accounted for by either of these theories. Thus, if the former theory be true, the dilatation of the pupil caused by a large dose of digitalis, or by the local application of belladonna, and the same effect as caused by pressure on the brain and by death, can only be accounted for by supposing its muscles to be deprived of nervous influence. That being the case, the same cause that deprived the sphincter muscle of its nervous influence should also deprive the straight fibres of theirs, and the iris should remain in an inactive state, between contraction and dilatation; or it should become paralysed, in whatever state it might be at the time the cause of the paralysis was applied. But this we know is not the case,—the pupil is always dilated.

Again, when the anterior part of the iris is irritated, contraction of the pupil takes place. If there were both straight and circular muscular fibres, both being equally stimulated, the iris should remain stationary, or alternately dilate and contract, from the two muscles alternately acting, as the flexor and extensor muscles of a limb do, when the nerves leading to them are stimulated. Supposing the sphincter muscle to be much the stronger of the two, the contraction might arise from its overpowering the straight fibres; but then, when belladonna is applied to the eye, the straight muscle, being the weaker, should be first paralysed, and we should have the pupil more contracted, at least for some time before the dilatation commenced. A theory which can-

not account for such important facts as these, cannot be correct. Let us now examine the other, which supposes the movements of the iris to depend upon the injection of its vessels.

The first objection to this theory is, that we have no proof of an increased supply of blood being sent to the part at the time of its dilatation; while, in the next place, we have distinct proof that an increased quantity of blood may be circulating through the iris, and yet the pupil be preternaturally dilated. This is the case when belladonna is applied during inflammation of the iris. Here, though we see the anterior ciliary arteries injected with red blood, yet the pupil is much dilated. This it most certainly should not be, if the dilatation of the iris depended on the quantity of blood circulating through its vessels.

It may be asked, can any theory be offered capable of accounting for these facts? I think there may; and one that in a great measure removes the perplexity that has surrounded this interesting subject. But, before offering any theory, let us examine the anatomical structure of the parts in question, and endeavour from that to draw some legitimate conclusion concerning the function of the different parts.

If we examine the anterior surface of the iris, we can plainly distinguish a small portion, extending round the pupillary margin, differing in colour and appearance from the other part. This, in the best delineations of the iris, is represented as composed of circular fibres, and I am inclined, for reasons I shall hereafter assign, to believe it to be a circular muscle.* The nerves distributed to the iris arise from two sources: from the third pair, and from the first division of the fifth pair of nerves. The latter, as far as we are acquainted with its functions, as distributed to the upper part of the face and head, is entirely a nerve of sensation, while the former only presides over muscular motion.

The distribution of a muscular nerve to this organ would, of itself, be a strong presumptive evidence that some part possessing muscular power did exist, and would render it probable that the motions of the iris depended in some way on muscular action. This supposition is rendered still more probable by the fact that, in some animals, as the rabbit and guinea-pig, the third is the only nerve that sends filaments to the iris. Hence, as contraction and dilatation of the iris takes place in them, its simple motions must be radically independent of the fifth pair of nerves, however much they may influence the time and circumstances under which it acts.

Having given the reasons that principally induced me to think the motions of the iris dependent on muscular action, I shall next endeavour to point out the mode in which its different motions are effected.

* By the term muscle, I would be understood to mean an arrangement of animal fibres having a power of contractility dependent on nervous influence.

The dilatation of the iris, and consequent contraction of the pupil, I believe entirely depend upon the contraction of a sphincter muscle, situated at the pupillary edge of the iris. This I am induced to believe from the fact that all stimuli applied to the nerves of the part occasion this contraction; and any thing that tends to paralyse these nerves, as the application of belladonna, pressure on the brain, and death, all deprive this muscle of the power of action. On the other hand, I believe the contraction of the iris, and consequent dilatation of the pupil, to depend on the elasticity of the parts situated between the sphincter muscle and ciliary margin, a power distinct from muscular contraction, as it is independent of nervous influence, and even of life itself. This would account for the dilatation of the pupil when the supply of nervous influence is cut off; and it is not the only case in which nature has placed simple elasticity as an opponent to muscular contraction. In respiration, the elasticity of the cartilages of the ribs draws down the chest when the muscles of inspiration relax; and, from their elasticity continuing after the inspirators are deprived of all supply of nervous energy, expiration is the last act of life. The contraction of the iris taking place at, and continuing after, death, certainly shows that it also depends on elasticity, a power uninfluenced by the vitality of the parts.

I had recently a case under my care, showing very decidedly the influence of the ciliary nerves on the contraction of the iris. The following I extract from my notes of the case:

"J. Green, a labourer, was accidentally struck on the upper part of the eye by the lash of a carter's whip. I saw him soon after the accident, and found the upper eyelid cut. On the upper surface of the globe of the eye, about two lines from the cornea, there was a slight extravasation of blood on the sclerotica, beneath the conjunctiva. The iris presented a curious appearance: it was contracted along its upper margin, while the rest of it was dilated; the pupil was thus drawn nearly to the ciliary margin at the upper part of the eye, to an extent corresponding with the extravasation on the sclerotica. On exposing the eye to a strong light, the upper portion of the iris was fixed, though the other parts dilated and contracted as usual."

From the paralysis of the portion of the iris being so immediate, and so exactly corresponding with the extent of the injury done to the sclerotica, I think myself justified in concluding that it must have been caused by concussion of the ciliary nerves; and the iris being so closely contracted at the part corresponding to the injury, shows that its contraction is different from muscular action, being independent of nervous influence.

Mr. Lawrence has met with two cases, showing still more decidedly that the dilatation of the iris depends on muscular action, (at least on a power which, like it, owes its action to the influence of nerves of muscular motion:) he does not, however, seem to have drawn

any conclusion from them. He says, "I have seen two cases* in which there was a paralysis of all the parts supplied by the nerves of the third pair, viz. three of the recti muscles, one of the oblique muscles, and the levator palpebra superioris; so that the upper eyelid could not be elevated, and the globe was drawn outwards by the external straight muscle. In both instances the pupil was largely dilated. You may, perhaps, suspect that the optic nerve may have been insensible; but this was not the case: for, in one of those instances, when the patient looked through a minute opening in a card, producing what may be called an artificial contracted pupil, vision was perfect."

These cases are, in some measure, similar to the one I met with, as far as the iris is concerned; but they are much more satisfactory, as the paralysis was more complete; and, as the fifth pair of nerves appear to have been in a perfect state, they prevent the possibility of our attributing the contraction of the pupil to their influence.

The fact that the pupil is contracted during sleep may be thought opposed to the idea that its contraction is dependent on the action of a sphincter muscle; for, at that time, muscular energy seems to be suspended. I do not, however, apprehend it to be any objection. The sphincter muscles differ from the straight muscles, inasmuch as they never appear to be fatigued by action. Thus, when the general muscular system is in a state of rest during sleep, the sphincter ani and the sphincter vesicæ both continue to act: so does also what I have termed the sphincter muscle of the iris. This, therefore, seems only to render it more closely allied to the other sphincter muscles.

What then, it will be asked, is the function performed by the branches of the fifth pair of nerves distributed to the iris? That they are sent there for an important purpose, no one can doubt. I have observed some facts which may, I trust, tend to throw some light on this interesting subject. But this paper is already too long to permit of my entering upon that subject at the present time. I shall, however, continue my investigations, and probably, at some future period, communicate the result of my observations.

From the London Medical Repository and Review.

CASES ILLUSTRATIVE OF THE VIRTUES OF PRUSSIC ACID, IN STOMACH COMPLAINTS.

To the Editors of the London Medical Repository.

Gentlemen,—Several years have elapsed since it fell to my lot to review† Dr. Elliotson's valuable little essay on the efficacy of this remedy in certain gastric disorders. The scanty knowledge I then had of its powers induced me to speak favourably of it; and, I rejoice to say, that subsequent experience has fully justified the opinion. In the course of my practice many instances of the remarkable powers of this medicine has occurred; but the subjoined cases are those only of which I have preserved any particulars.

Names.	*Age.*	*Duration of Complaint.*	*Symptoms and History.*	*Duration of Medicine.*	*Events.*
Miss Harris	36	sevl. months	Pain in epigastrium—vomiting urgent	3 days	Vomiting and pain subdued.
James Sumner	30	sevl. days	Pain, with occasional convulsions	7 do.	First dose greatly relieved.
Mrs. Russell	39	month	Severe dyspepsy	6 do.	Completely cured.
Sarah Ellis	25	year	Ditto	10 do.	Do. first dose removed eructation and flatus.
Eliz. Emery	26	do.	Ditto	5 do.	Completely cured.
Phœbe Miles	33	do.	Severe dyspepsy with pyrosis	17 do.	Ditto, pyrosis relieved by first dose.
William Harris	29		Dyspepsy with violent palpitation of the heart	8 do.	Completely cured.
Eliz. Willis	31		Violent dyspepsy	7 do.	No complaint, except a little flatulence remaining.
Ann Duffin	52	week	Ditto	14 do.	Quite cured, very liable to this complaint.
Sarah Joyce	47		Gout annually for upwards of twenty years, and occurring usually in March—always preceded by evident dyspepsia, which she now has, (Feb. 20th, 1821,) together with the gouty pains in the right foot and ankle	7 do.	Immediate improvement of the digestion, followed by diminution of pain in the foot. At the end of a week perfectly free from the disorder. March 27, still remains quite well.

* Lancet, vol. ix. p. 245.

† Vide Medico-Chirurg. Review for 1820.

Names.	*Age.*	*Duration of Complaint.*	*Symptoms and History.*	*Duration of Medicine.*	*Events.*
Thos. Thompson	24	2 months	This was the severest case of dyspesy I ever saw, accompanied by a most alarming palpitation of the heart, and sudden and profuse eruptions of sweat. This patient had been previously and largely bled under the idea of organic disease, and taken a variety of medicines without benefit	14 days	In four days the dyspeptic symptoms and palpitation were greatly relieved. In fourteen days he was quite free from complaint—a more decisive proof of the efficacy of the remedy cannot be conceived. It had resisted every other remedial measure.
Ann Croft	33	3 months	Severe case of dyspepsy with palpitation	26 do.	Perfectly restored. Pain of epigastrium and palpitation yielded almost immediately, but the flatulence remained. She had used, alteratives and bitter tonics previously, but without benefit. This case was protracted by an accidental catarrh.
Anna Herbert	50	5 years	Distressing pyrosis and flatulence, with eructations, loss of appetite, and oppression after meals	12 do.	Perfectly restored; first dose produced remarkable alleviation.
James Wicks	30	3 months	Violent palpitation of heart; tenderness and fluttering at epigastrium. Gnawing at stomach with oppression	4 do.	V. S. and other remedies were useless. In four days, palpitation, with the other symptoms, had almost subsided.
Eliz. Silver	60	6 months	Vomiting very frequent; pyrosis; pain and fluttering at epigastrium; headach; irregular appetite; emaciation	8 do.	In two days great relief; and in eight days such a mitigation of all the symptoms, as almost to leave her entirely free from ailment.
Mary Verrey	27	2 years	Spasm at stomach with flatulence and borborygmi, producing epileptic attacks	5 do.	All the stomach ailments were suspended, and during the fifteen days, the fits did not recur.
Sarah Rickets	23	14 days	Pain in epigastrium, tending to left hypochondrium; palpitation; dyspepsy; difficult respiration	10 do.	Remarkable alleviation after the second dose. In ten days the disorder wholly subdued.
Fanny Marcham	52	4 months	Severe dyspepsy, with distressing palpitation of heart. Has used other remedies without benefit	14 do.	Palpitation gone, and all the other symptoms.

It is here requisite to state that the dose of the medicine seldom exceeded three minims. It was administered generally thrice in the day, with a little mint water, and never could I discover any inconvenience from the remedy, except a slight nausea, or certain trifling nervous sensations—both of which symptoms, however, would speedily subside on its discontinuance. Those cases of dyspepsy in which the heart becomes violently and sympathetically affected, as well as those in which the complaint induces convulsive affections, seem to be peculiarly under the control of the Prussic acid. In such instances, as, indeed, in almost all the instances in which the remedy proves efficacious, its beneficial influence is so sudden as to convince me that its operation must be primarily on the sentient extremities of the gastric nerves, thereby restoring them to their healthy function, and inducing healthy secretions as a consequence. Whether this speculation may accord with the sentiments of others, I know not; neither is it a matter of the slightest consideration, so long as the astonishing powers of the remedy continue to be supported by a multitude of facts, as clear and convincing as the nature of the subject will admit of. There are, I am aware, many stomach affections, over which it seems to possess little or no power, especially those in which the organ itself is structurally altered; but I am equally persuaded, that every practitioner who gives the Prussic acid a fair trial, will not fail to discover that he is in possession of an engine which will often enable him to overcome difficulties, insurmountable by all ordinary methods.—I am, gentlemen, your obliged servant,

F. Bailey.

From the Medico-Chirurgical Review.

MEMOIR ON THE TREATMENT OF RHEUMATISM. By Dr. CAZENAVE, of Pau.

Pau, the town where our author resides, is only six leagues from the Pyrenees. The proximity of these mountains, and the prevailing westerly winds which blow over them, cause most abrupt and extensive transitions of temperature. The country, however, is extremely healthy, with the exception of rheumatism, which may be said to be there endemic. It simulates, like hysteria, almost every other complaint—or complicates itself with almost all other pathological conditions. In such a situation, an observant physician has excellent opportunities of studying a disease, which, after all that has been written on it, is still as obscure in its nature as it is rebellious to treatment. During a period of eight years, Dr. Cazenave has cultivated the study of rheumatism in all its ostensible and masked forms, and now comes before his brethren with a method of treatment which he considers as unusually successful.

Unlike some of our modern monographists, Dr. C. has not constructed a volume out of preceding writers:—he has merely made a few remarks, the result of his own observation. We shall extract a passage or two from this Essay, before we state the Doctor's methodus medendi.

"I have seen (says he) rheumatic patients suddenly seized with violent pain in some part of the body, and over a considerable space. On examining with their hands to find out the precise spot, they would have much difficulty in determining it, however hard they might press. At length, a single point, as it were, would be found to be the seat of exquisite pain and sensibility, without any thing being visible externally. In other cases the pain will suddenly cease in a part, and the patient will experience a disagreeable sensation of formication rather than distinct pain in some other part, at a considerable distance. On examination, he is surprised to find a large patch of redness, with more or less tumefaction, in the new seat of the rheumatism. In this manner the complaint will sometimes travel over the whole surface of the body, and then fix itself at the extremity of a finger for a month or two, causing dreadful pain, but without the least discoloration or swelling of the part.

"I have seen this disease in the person of a medical gentleman, fix itself in the sclerotic coat of the eyes, at their outer and inner angles, and there occasion the most terrible sufferings, on the least motion of the eye-ball. Yet the sight was not in the least affected, nor was there any appearance of inflammation. At other times the rheumatalgia has seated itself in the transparent cornea, attended with indescribable sufferings, intolerance of light, insomnium, and violent ophthalmia. The same medical gentleman experiences occasionally the rheumatic pain in a single point of the minutest dimensions, in the eye-brow, and other parts of the face. An elderly lady, afflicted for several years with rheumatalgia of the deltoid muscle, lost slowly her sight. An ophthalmic surgeon discovered a cataract in each eye. The operation was performed on one of them; but scarcely was it finished, when the organ became the seat of the most excessive pain—the sclerotic became gorged—the coats red—and this state of insupportable sufferings lasted six weeks, with scarcely any intermissions. At this period, the deltoid muscle (which had been free from pain) became again the seat of rheumatism, and the ophthalmic inflammation and pain disappeared. She recovered sight in this eye. Three months afterwards the other eye was operated on, and again the pain and ophthalmia took place as violent as in the other eye. A blister was applied to the arm, and a metastasis of pain was quickly produced, and the eye relieved."

Of all the INTERNAL organs, our author has found the STOMACH the most liable to rheumatic affection. In some cases, this shows itself merely in languor of function, or simply a sense of cold or pain in the epigastric region, relieved by hot frictions. The digestion may be very little impeded. In this state of chronicity, the disease is difficult of removal. But, not unfrequently, it produces in the same organ much more disagreeable effects, as nausea, vomitings, indigestion, violent cardialgia, and symptoms imitating cancer or scirrhus of the pylorus—all which phenomena, will suddenly disappear on the commencement of rheumatic pain in some of the limbs.

"I have seen a case of wandering rheumatism, where, after attacking the stomach, the bowels, &c. it fixed itself for more than three months, on the heart, inducing palpitations, convulsions, syncope, and other symptoms that led the attendant physician to believe there was aneurism of the heart. A blister applied to the arm dissipated the whole of these symptoms, and the patient afterwards enjoyed good health."

The author has seen the bladder affected with rheumatism, and retention of urine produced—the lungs attacked, and all the phenomena of peripneumony succeed. Parturient women are very susceptible of the causes of rheumatism, and Dr. C. avers that nothing is more common, at least in his part of the country, than rheumatic pains in the uterus and its appendices.

But we must now proceed at once to the treatment which Dr. C. has brought forward, as it is somewhat novel—at least it is a new modification of a remedy which has long been employed, though less so in this country than formerly. It is OPIUM. After remarking on the different effects of opium, according to the dose, or the repetitions of the doses, Dr. Cazenave proceeds to maintain, that the failure of opium in the cure of rheumatism is owing to the timidity with which it is administered. In the complaint under consideration, Dr. C. remarks, opium acts in three ways, according to the dose employed. Given in small quantities, it obtunds the sensibility, and brings a

temporary relief—but the cure is not thereby accelerated. Administered in a somewhat larger dose, it sometimes occasions nausea, palpitations, giddiness, headach, &c. These effects are, of course, but momentary, and should form no solid objection to the remedy, if it is found beneficial in other respects, besides relieving pain. To the above effects of opium (if it be continued) succeed others:—the patient does not sleep; but he experiences a kind of delightful ecstasy, forgets his sufferings, &c. The action of opium is then excitant, like that of wine. In some cases, an abundant perspiration is the result—but, in both events, the radical cure of the rheumatism is effected—that is, with or without the sweating process. The quantity of opium will vary, of course, in different constitutions; but the following is the mode of administration employed by our author.

To an adult, he orders a pill containing one grain of opium—and, an hour afterwards, he gives another grain, if the pains continue. At the expiration of the second hour he gives a third grain—and, after a little time, he examines his patient. If there be a tendency to hilarity, he administers a fourth grain, and so on, a grain every hour, till a complete calm is established, or an abundant perspiration is induced. This being the case, he orders a grain to be given every two, three, or four hours, according to circumstances, solely with the view of keeping up the perspiration.

In respect to regimen during this mode of treatment, it is indispensable, of course, to keep the patient in an even and mild temperature, with flannel next the skin, and on the simplest liquid food. Perfect quietude is necessary during this treatment. In this way, Dr. C. assures us that he speedily cures rheumatism, whether acute or chronic, or in whatever part of the body it may be seated, without any bad consequences ever ensuing. When the disease is complicated with any other complaint, particularly with derangement of the digestive organs, it will be necessary to attend to the adventitious disorder. If the fever in acute rheumatism run very high—and particularly if any thoracic or abdominal organ be oppressed in function, or labouring under pain, it will be proper to draw blood from the general system, and to put in force the other items of the antiphlogistic treatment.

We think the plan of Dr. Cazenave is not unworthy of attention, in the management of a disease which so often baffles the medical practitioner, and brings no small degree of odium on his art.

From the Edinburgh Medical and Surgical Journal.

CASE OF LABORIOUS PARTURITION, *complicated with Laceration of the Uterus and Vagina.* By William Campbell, M. D., Lecturer on the Practice of Physic and Midwifery, &c.

Mrs. Ferguson, aged 36, of rather spare habit, the mother of seven children, was seized with uterine action on the 21st of November 1824, at 9 P. M., while in the early part of the last month of this her eighth pregnancy. Pains continued until between one and two in the morning of the 22d, when they suddenly, almost entirely, ceased. After the cessation of uterine action, the pulse became extremely rapid, small, and indistinct, accompanied by a trifling effusion of blood *per vaginam.*

The patient was under the care of my friend Mr. James Scott of Broughton Street; and I saw her about an hour after the character of the pains had become changed. She was then in a most alarming state. The abdomen could not bear the slightest pressure without violent pain being produced; the pulse was too quick and indistinct to be numbered; the countenance pale and collapsed; considerable thirst was complained of; and there was a disposition to bear down, but without effect. Immediate delivery was resolved upon, and, to accomplish this, forceps were applied over the head, which was placed upon the brim, but from its great size, it could not, after a cautious trial of half an hour, be brought through. The forceps had nearly slipped off the head during the attempts of extraction, from the elasticity of its bones, whereby we were induced to think that the cranium contained water. The forceps was withdrawn, and the perforater pushed into the anterior fontanelle, which gave exit to a considerable discharge of water; and this was soon followed by the expulsion of the fœtus, and about 2 lbs. of coagulated blood. As the uterus was in a state of relaxation, and blood continued to be effused *per vaginam,* the hand was introduced into the passages, when an extensive rent was discovered in the upper and back part of the vagina, extending through the cervix to the lower part of the body of the uterus. The hand passed through this opening, among the intestines, before we were scarcely aware of the accident. The pelvis was well formed; and the patient had an easy time in all her previous labours.

At half-past one P. M. vomiting of dark coffee-coloured matter commenced, and the quantity brought up in the course of the day amounted to about 2 lbs. While in this condition Professor Duncan, Jun. saw the patient, and agreed with Mr. Scott and myself in thinking her in a most unfavourable state. The pulse ranged from 130 to 150 in a minute, and the lower extremities occasionally felt cold. Beef-tea and port wine, in small quantities, were allowed for support, and bottles of hot water were applied to the lower limbs. The patient had four enemata in the course of the day, each containing a pound of beef-tea and ten drops of the tincture of opium. 23d, 10 A. M. Pulse much improved in firmness and regularity, and beat 126. There were occasional pains in the abdomen; lochia moderate; urine to the amount of six ounces was drawn off last night by the catheter. 6 P. M. Black vomit reappeared, and continued until about six pounds of it were brought up. The bladder was evacuated several times in the course of the day with ease. The passages were

washed out with about twelve ounces of warm water; and the following draught was ordered at bed-time.—℞ *Solut. opii sedativ. gt. xj. aq. menth.* ℥j. *M.*

24th.—Pulse as yesterday; no vomiting since last night, though a considerable quantity of beef-tea has been taken by the mouth. The patient had a very fœtid alvine evacuation this morning, and she complains of considerable pain and tension of the abdomen. At this visit she was ordered a pound of gruel and two ounces of the volatile oil of turpentine for an enema; to have the abdomen fomented by flannel compresses wrung out of one pound of warm water and four ounces volatile oil of turpentine. 6 P. M. Enema procured three copious evacuations of fæces and flatus, which were followed by great relief. An examination was made *per vaginam* at this visit, and the situation of the rent in the posterior part of the *cervix uteri*, extending towards the promontory of the sacrum, could be traced as far as the fingers could be advanced. There was no visceral protrusion, and the uterus did not seem at all sensible, as the patient scarcely complained of any uneasiness during the examination.—*Haust. ut heri, nocti hora somni habeat.*

Nov. 25th.—Patient had a good night; pulse 114, firm and regular; tongue and skin moist; no disposition to vomit for the last two days; tension of the abdomen less; had an alvine dejection in the morning. Beef-tea and wine were ordered to be discontinued, and a little panado substituted.—*Haust. ut heri nocte rept.*

26th.—Stools have been thin and frequent, accompanied with a considerable degree of tormina and tenesmus since the exhibition of the turpentine enema.—*Habeat statim ol ricini* ℥ss.

She was ordered a little rice boiled in milk, for nourishment.

27th.—Pulse 112; skin temperate; diarrhœa going on.—℞ *confect. aromat.* ℥ij. *tinc. kino* ℥j. *tinc. opii, gt. xl; Tere bene simul, et postea gradatim adde, aq. cinnam. et aq. pur. ana* ℥ijss. *Fiat haustus, cujus ægra cochleare amplum, quæque tertiæ hora sumat.*

To be allowed a little chicken for nourishment.

29th.—Pulse 102; mammæ a little tense and painful. Patient continued to regain strength, and we gave up visiting her on December 2d. She remained long delicate, and has not conceived since. During the whole of this pregnancy her feelings were very different to what they had been on former occasions; she felt herself weakly, heavier, and not so active as in her former pregnancies.

The fœtus, independent of its being rather small and hydrocephalic, had *spina bifada* on the lumbar portion of the spine, and its lower extremities were much distorted. The cranium of this fœtus, which is now among my collection, is to a great extent membranous. Its circumference from the chin to the vertex is 11 inches; from the chin to central portion of the sagittal suture 8⅝ inches; from the root of the nose to the vertex 9⅜ inches; and from one parietal protuberance to the other 8⅜ inches.

4, *Picardy Place, Feb.* 27, 1828.

From the Edinburgh Medical and Surgical Journal.

CASE OF DIFFUSE INFLAMMATION OF THE CELLULAR MEMBRANE *from a Poisoned Wound, terminating favourably under the use of deep incisions.*

By John Evans, M. D., Member of the Royal College of Surgeons of London.

Mr. Layrd, surgeon of the Malin Dispensary, aged 26 years, living in a healthy part of country, surrounded by sea air, exercising freely, of regular habits, and in other respects possessing a good constitution, was called, on the 19th May, 1827, to open an abscess in the scrotum of a poor man advanced in life, which was occasioned by retention of urine, whereby the urethra sloughed, and the urine was infiltrated into the scrotum and penis.

To give exit to this fluid, Mr. Layrd made many punctures into the distended parts; and in making one of these, his right thumb, smeared with this sloughing matter, was pricked with a pin below the nail in the act of turning up the sleeve of the coat.

Acute pain, and more than what commonly attends a similar injury, was then experienced. The part was forthwith washed and well sucked. The person who gave rise to the accident died the following day. Mr. Layrd now went to a neighbouring lake, and fished for some hours. He returned to dine at six, and in taking hold of a tumbler of warm liquor in the wounded hand, he, for the first time, felt an alarming sensation of pain and heat so pungent, that he almost dropped the glass on the table.

From this moment a train of severe complaints commenced; nor can language sufficiently describe the sufferings of the unhappy individual. Up to the time of my first seeing Mr. Layrd, I had the history and treatment of the affection, as well from himself as from Mr. M'Dermott of Carn, who was most assiduous in his attendance on Mr. Layrd.

It appears the pain, uneasiness, and burning sensation were confined to one spot, and this where the pin had entered, not being larger in extent than what a pea would cover, now became insupportable. He ran from place to place, scarified it and applied lunar caustic. Then he immersed the hand in warm water, when it became worse. This was changed for cold, but without alleviation. A warm poultice was next applied; but the pain increasing, this was laid aside, and adhesive plaster put on. Thus the night was spent in the most miserable way, without relief from any application.

20th. He was no better. A crucial incision was made over the thumb, and goulard put on. He was bled to sixteen ounces; but becoming weak when this quantity was abstracted, the vein was closed. Three grains of calomel, followed by sulphate of magnesia, produced five dejections.

P. M. 8th hour. I saw him for the first time twenty-six hours after the commencement of symptoms, and thirty-seven from the period of receiving the supposed poison. The pain indeed was now extreme. He had derived no benefit from the bleeding. Pulse 96, certainly one from its compressibility not demanding further depletion. He was in bed, tossing to and fro; his face flushed, as well from muscular exertion as from the warmth of the night and a confined room, from febrile reaction. It was distressing to see him gnashing his teeth, beating the bed with his feet, and calling out with the fiery sensation in his thumb. The blood taken was natural; nor was there any increased heat of body. Tongue dry, and brown in the centre, like that of a typhous patient on the third day of illness. The thumb now was red, swelled and painful; the burning sensation, which was constantly present, aggravated on the slightest motion or pressure of the part. He dreads approaching it. These inflammatory indications, with high morbid sensibility, are confined to the first joint of the thumb.

On examination, the lymphatics are seen running up the arm in two distinct lines on the inner side, to within three fingers' breadth of the axilla. The hand is now in cold water, often renewed; nor can he keep it one moment out of it. Three large leeches, all we had, were put on the wounded part. His calls were most urgent for the cold water during their application. The extracts of *Belladonna* and *Hyoscyamus* in watery solution were freely applied. On the sound skin, above the termination of the inflamed lymphatics, an eschar was formed circularly, by pencilling the part with nitrate of silver. He was ordered five grains of compound powder of ipecacuan, and one grain of sulphate of quinine, every second hour, with cold drinks.

3d day of illness.—The Dover's powder was reduced to half the quantity, the third dose causing retching. Some sleep, followed by frightful starting. Gently pressing the wound caused dark fluid blood to come away. The inside of thumb distended; the integuments tense; pain and uneasiness unabated. This part was now freely incised, till the knife reached the bone. Every thing of yesterday continued. Urine voided in large quantity and clear. The inflamed state of the lymphatics stationary. He requested to have a trial made of warm water; but his sufferings were thereby increased, and the cold was resumed. Leeches were ordered from Derry, a distance of twenty miles; and, in the meantime, fit rollers were applied to the finger and arm. These were moistened by the narcotic solution spoken of above, and with as much pressure as could be borne. The parts were subjected to the pressure of rollers for two hours and-a-half. During this period, decided relief followed; but the leeches having arrived, the bandage was taken off, and twenty-two applied over the head and fore-arm with effect.

No relief followed this application, while the ease experienced during the pressure was succeeded by the former pain. Incisions extended; two others made on the thumb. Pulse 90. The pain before making the last incisions was truly frightful. He exclaimed in agony of the burning sensation in his thumb. The grumous blood continues to flow; no pus from any part; no motion. P. M.—Swelling decidedly advancing; it is now as high as the wrist.

Pil. Hyd. gr. vi. mane. Sul. Mag. et Infus. Sen. Pulv. Dover. et Sul. Quin. h. h.

4th day.—A better night. Changed the water often from hot to cold. The inflammation extending, a blush of redness is seen in the axilla; then the skin seems natural, while beyond this a second blush is seen on the side. Tongue dark and dry in the centre; pulse 83. Grumous blood still oozing from the wound. The parts incised are less tense and painful. No shivering, headach, or unusual weakness. Intellect sound. Another incision on thumb. Gruel freely taken. Eleven leeches applied. Four natural dejections. After the leeches the pain became most excruciating. Dover's powder and quinine continued.

A glass of port negus, with twenty drops of laudanum. Nourishment in abundance. A severe rigour in the evening. Extremities cold. Laudanum and negus repeated. Warmth applied.

H. S. Tinct. Opii. gutt. xl. Mist. camp. ℥ss.

5th day.—Two hours sleep. Symptoms aggravated. Pulse 96. Another incision on the back of the wrist. Lymphatics less red. He resumed the hot water. Took three ounces of wine at two times. No motion. Tongue as yesterday. H. S.—Has taken nourishment freely. Every thing continued. *Tinct. Opii. gutt. lxxx.*

6th day.—Slept on the whole well; less pain; pulse 108. Epsom salts with effect. Two grains of quinine every second hour. No suppuration. The cuticle separated and removed from the thumb. The punctured part looks like half-boiled veal. The fore-arm is much distended; and the pain in the evening intolerable. This part was freely laid open for five inches in length, dividing the tense fascia as it presented itself to the knife.

This incision was followed by great retraction of the integuments, and ease that cannot be described; but the pain next settled on the soft parts, covering the metacarpal bone of the fore finger. This was forthwith divided with the usual relief. The finger could be insinuated under the divided edges of the integuments, and these readily everted. It seemed as if they had lost their adhesive connexion. The countenance and features look sharp and haggard. He is restless and peevish; urine clear and voided in large quantity. Every thing ordered taken. Nourishment freely, consisting of mutton-chop, soups, &c. &c. He lies now with his arm and shoulder in hot water. He is propped by pillows half out of bed; and the whole extremity, up to the shoulder, is in a bullock's feeding-trough.

P. M.—Pulse 120. No improvement in the tongue. Severe paroxysms of pain run-

ning in the direction of the radial artery. At 6 Dr. Rogan arrived, and a consultation was held with this gentleman and Mr. Irvine, R. N. The result was to follow up the practice of incision as heretofore; and whenever pain and tension become urgent, then to use the knife without reserve.

About this period a singular nervous sensation manifested itself. It was like deep and weighty sighing, referred to the præcordia, which no effort of his could overcome or restrain. The inspirations were short and with a loud noise, while the expirations were long and anxious. Two ounces of port. Laudanum repeated to eighty drops. It was applied also to the pit of stomach. The former remedies continued.

7th day.—Some sleep in the night, and two hours' freedom from pain after laudanum. After an interval of six hours it was repeated to seventy drops. The pulse and tongue as last reported. Affection of præcordia distressing. An old incision extended. At consultation it was resolved to give laudanum steadily, seventy drops every sixth hour. If the pain remains unmitigated the interval to be four hours. Sherry, one pint in twenty-four hours. Nourishment to be continued largely, paying attention to the stomach.

Laudanum taken at 10 and at 4 P. M. Wandering in intellect; inflammation extending. At 8 the laudanum omitted, and the following substituted by Mr. Irvine.—℞ *Ext. Hyoscyam. n. gr. viij. Pulv. camphor gr. iijss. forma boli. Repetatur t. opii gutt. xl.*

Two incisions made over the radius and ulna were followed by immediate ease.

8th day.—Hot applications continued. He had an hour of refreshing sleep, and awoke covered with perspiration; urine copious; the inflammation extending; pulse 106. Three natural fluid dejections. Wandering of mind continues, but is collected when spoken to. He still has deep inspirations, with soreness in the epigastric region; and feels as if there was spasm in the cardiac portion of stomach. The skin is natural. Quinine continued; laudanum at the hour of rest.

9th day.—Every symptom aggravated; bowels often moved; pulse 120. He complains of pain in the direction of the œsophagus going into the stomach; difficulty in swallowing. He has taken 160 drops of laudanum in three doses. Camphorated liniment to the throat and neck.

Yesterday he was resigned and courted death; at present he is more cheerful and anxious to live. The medicines were continued. P. M. Nourishment abundantly taken; six fluid dejections. Eight ounces of Madeira consumed with malt liquor occasionally. A former incision deepened from a sense of fluctuation, was followed by blood only. He appears rapidly sinking, as well from disease as from diarrhœa. ℞ *acetat. plumb. gr. vij. pulv. opii, gr. iv. in pil. h. s. iv. unam 3tia hora.* An enema of starch with 100 drops of laudanum. This to be repeated in four hours. Omitting the laudanum; the quinine continued.

10th and 11th days.—Pulse 106-20; inflammation above the elbow. The laudanum in full doses at night. Sleep. A bottle of Madeira daily, with as much malt liquor. The arm is now frightful; phlyctenæ scattered over it, and a large one on the fore finger; urine still clear and voided in large quantity.

12th day.—Inflammation over the shoulder. The hot water discontinued, and a flax-seed poultice applied. Diarrhœa has ceased.

13th day.—The quinine was continued steadily at the rate of two grains every second hour till this morning, when he refused every thing in the shape of medicine. The diet, consisting of the most nutritious articles, given often, and retained in large quantity, with it appears *nearly* two bottles of old Madeira in the last twenty-four hours, independent of London porter or ale, which certainly exceeded another bottle, has been duly persevered in. The wine is now restricted to half the quantity, with some ale. Pulse 116; the tongue as unfavourable as it can be. Marks of inflammation are now seen on the side; it is of a bright scarlet colour, but the tension seems less; some discharge of a puriform nature from original wound. P. M. Quinine resumed in grain doses every second hour, and the laudanum at night. The tongue moist at the edges.

18th day.—Discharge purulent from thumb, sparingly so from one of the incisions; the extremity, enormously swelled, is in girth nearly equal to a moderately sized pillow. The redness is now becoming pale; fluctuation evident through the whole arm, but the boggy feel only at the inner margin of the deltoid.

An incision was made near the origin of the *supinator radii longus*, and a large quantity of pus came off, by no means unhealthy. Another opening was made along the lower portion of the *flexor carpi ulnaris* with the like result. It was opened after this by Mr. Irvine at the part reported boggy, and matter evacuated. The greatest relief followed these several incisions. The tension became less; the arm more manageable, and diminished in size. Before this, moving or changing its position, from its weight and pain, was a task of the greatest difficulty. Tongue assuming a natural appearance. Every thing continued. Wine reduced to half a bottle in the day. Pulse 104.

19th day.—The openings continue to discharge; no sloughing of cellular membrane; the exhaustion and emaciation great. He has had severe pain in the opposite side, accompanied with much difficulty of breathing, amounting to a kind of paroxysm, and seeming to affect him so violently that he could not survive it. This continued for two hours. I saw him when at its height. Hot bricks were applied with relief. In the originally affected side, at the inferior angle of the scapula, pain and uneasiness were complained of. It was examined, and matter was discovered on the inner edge of the *latissimus dorsi*. Here again the boggy feel was well recognised. Below this abscess the integuments seemed to present a contracted or adhesive feel, defining its lower

portion. We found it did not extend beyond this subsequently. A free incision was made into this part, and sixteen ounces of matter taken away. It was left discharging.

In this matter, were seen large portions of detached cellular membrane, and clots of dark blood. Wine, diet, and quinine continued. Laudanum at night.

25th day.—Continues to improve.

July 12th, 55th day.—Every thing favourable. He was out of doors a few minutes for the first time to-day. The original wound still discharging purulent matter; that from the side is of a serous nature. No power of moving or using the extremity. He is still very much emaciated.

It is superfluous to refer to the many valuable cases published on similar affections. That now detailed justifies the opinion that neither any bad habit of body, or unwholesome condition of atmosphere, or the injury itself, could have availed any thing in inducing a disease so severe; and that all was caused by the minutest portion of an animal poison entering the system, and this poison generated during the life of the individual who communicated it. Similar occurrences do not often happen. Let the nature of the poison be what it may, it derived its virulence from extravasated urine, causing gangrene of the parts in contact with it, and involving extensively the cellular membrane. That the person imparting this poison was free from any disease till attacked with the retention of urine, may be inferred from his general healthy condition and his country life.

As caustic was early applied, and the part also early scarified, we are told a portion of it cut out, we have no knowledge whether a pustule or vesicle had formed. But the inflammation being continuous, the numerous *phlyctænæ* on the arm and fore-arm, and the absence of glandular inflammation, prove the severity of the disease, and the danger of the patient, while they strengthen the belief of an animal poison giving rise to the whole train of symptoms. We need hardly confess our obligations to Mr. Travers for his judicious remarks on constitutional irritation. Nobody will doubt there was in Mr. Layrd's case what this gentleman calls "prostration with excitement." The sighing, sinking, the indescribable uneasiness about the præcordia; the affection of breathing, with uneasy sensations in the diaphragm on the sixth day; the difficulty of swallowing; the jactitation; the state of the pulse and tongue, and the thirst, up to the formation of pus, and its discharge, all tend to establish this belief.

Throughout the course of the affection the urine was clear, and was noted by the attendants to be unusually abundant. The absence of morbid heat is equally strange. With respect to the treatment we have only to state, that without the knife, used both freely and extensively, every effort to save life would have been unavailing.

The incisions were made, in the first place, to relieve the insupportable tension and distension of the fascia, and the soft parts exterior to this, thereby freeing the sufferer from the pain attending thereon, while the amount of pain induced him to acquiesce in each operation, as ease in every instance followed. It is the opinion of his medical attendants that these states of pain, tension, and distension, would, by their acting on the nervous and cerebral systems, have destroyed him long ere matter could have formed. But the incisions were resorted to, in the second place, to give exit to accumulated collections of matter; as in no case, save at the thumb, where the poison was first introduced, did it find a passage by the first formed ones. The cellular membrane presented a whitish appearance at each incision; afterwards it looked like rotten tow.

Thus it seemed the superficial fascia, with the soft parts exterior to this, was in the beginning the seat of the affection; while the formation of pus was confined to that covering the muscles.

Those who advocate the depleting system in the case before us, will be disappointed when they perceive that neither the general or local abstraction of blood availed any thing. I do not say that the former rendered the disorder more untractable, yet I confess my doubts of its having been of use; while the latter certainly neither mitigated pain nor assisted in arresting the progress of the malady; and it is the conviction of the sufferer himself, that in both applications the leeches did harm.

I am of opinion that the constitution was affected, first, through the agency of the nerves; then we traced the poison to the lymphatic system; and lastly, continuous inflammation, the "specific inflammation peculiar to poison," the "erythematic" of Mr Travers, pervading the cellular membrane and blood-vessels.

The grumous blood coming from the wound for so long a time appears to have been the effect of the poison, acting on the vessels locally. The inward nervous sensations, as sighing, sinking, &c. were in all probability caused by this poison acting on these systems circulating through the blood-vessels. Throughout the course of ailment the glands in the axilla remained unaffected. We need hardly say that the applications to the extremity were changed according to the feelings of the patient; while the cordial and nutritive mode of treatment was persevered in to support the system, struggling with the effects of a malignant poison.

October 13th.—Mr. Layrd has not recovered the use of the extremity. He is unable to perform almost any of the common duties with it. His health I believe to be otherwise good.

From the Medico-Chirurgical Review.

INFLUENCE OF THE STOMACH ON THE BRAIN.

In a former paper we gave some account of a dissertation by M. Bayle, on the influence of chronic inflammation of the stomach and bowels in the production of mental alienation. In

a second memoir, he adduces further examples of this influence, and winds up with certain conclusions or reflections, which we shall briefly notice.

1mo. In a few cases, chronic phlegmasia of the mucous membrane of the stomach and bowels, is capable of inducing mental alienation—and, in *many cases*, it is capable of keeping up the mental malady, and modifying its character.

2ndo. Most of those who become deranged at the close of chronic gastro-enteritis, have inherited a constitutional predisposition to the disease from their parents. Their mental faculties are generally weak—the brain irritable. The dyspeptic and nervous sufferings of people labouring under gastric and intestinal irritation, tend very much to mental hallucination.

3tio. The anatomical characters of the gastro-enteritis which accompanies or causes mental alienation, does not differ from that which is unaccompanied by any mental aberration.

4to. The manner in which the gastro-enteric affection acts on the head is two-fold. When the pain of the abdominal malady is great, it is sympathetically propagated to the brain, and there disturbs its functions, in the same way as it is propagated to the heart, and produces the phenomena of fever. Hence the symptoms of mania. But when the gastro-enteritis is chronic, and less intense, or the cerebral system of the patient less disposed to irritation, then the dyspeptic sufferings of the individual gradually dispose to hypochondriacism—and hence arise various kinds of monomania—and especially the dread of being poisoned, with obstinate refusal of food, &c. These two forms differ only in degree, and they often pass from one into the other.

5to. This dread of poison and obstinate refusal of food are regarded by M. Bayle as the most constant and essential symptoms of mental alienation accompanied by chronic inflammation of the mucous membrane of the digestive tube. The two symptoms above-mentioned are "the expressions of gastric and intestinal sufferings in mental alienation." They may exist, he observes, without this condition of the stomach or bowels, but he has never seen a case where they were present, and where the symptoms of chronic gastro-enteritis did not show themselves during life, or the traces of it were found after death.

6to. It follows from these premises, if they are correct, that the treatment of insanity, where these phenomena obtain, must be specially directed to the gastro-intestinal affection; and does not differ from that which is necessary or proper where no cerebral disturbance is complicated with the original malady. This treatment hinges almost entirely on repeated leechings of the epigastrium; mucilaginous drinks; extremely abstemious regimen; exercise in the open air; counter-irritation.—Revue Medicale.

Fanciful as the above doctrine may appear to those who look no farther than the organ *apparently* most affected, for the source of a disease, we believe there is some foundation for it in fact. The mental miseries resulting from gastro-intestinal irritation are but very imperfectly known even to the most experienced physicians. Nothing, in short, but actual personal sufferings can teach the terrible but instructive lesson!

From the Medico-Chirurgical Review.

DR. KELLIE ON TUBERCLES, AND THEIR EFFECTS ON DIFFERENT STRUCTURES.

(Dr. Monro's Work on the Brain, Vol. I.)

Dr. Kellie observes, that common tubercles may be formed—attain a considerable size—and long exist in any of the various structures of the body, without producing much trouble or sensible disturbance of function. But, when they become excited, inflamed, or suppurated, then they begin their work of disorganization in the contiguous parts, and produce trains of symptoms—more characteristic, however, of the injured function of the matrix of the tubercles, than indicative of the existence of the parasitic formations themselves.

"I have found tubercles in the serous membranes, and imbedded in the substance of the liver, of the spleen, of the kidney, of the uterus, of the lungs, of the brain, and of the cerebellum, in subjects in which no symptoms had indicated their existence during life. In young people, in children especially, from five to ten or twelve years of age, it is not uncommon to find tubercles of various sizes, and in various states of progression, co-existing in all or most of the organs in the same subject, who had enjoyed perhaps good, or very tolerable health, till within a very few days of his death. I found them in the brain, in the lungs, and in the peritoneum of one boy of seven years of age; in the brain, in the medulla oblongata, in the liver, in the spleen, and in the lungs of another boy at the age of nine; and yet these boys were active and well, and continued at school till within fourteen days of their death. Both died of Hydrocephalus acutus, passing, in the course of fourteen days, through all the stages of that disease, with nosographic regularity. In the latter boy, there occurred, indeed, during the last two days of his existence, a paralysis of the right side, and a spastic rigidity of the left arm, which enabled me to conjecture the probable existence, not of tubercles, but of inflammation and softening of the substance of the brain, as well as of the distention of the ventricles by serous effusion. Accordingly, besides the dropsy of the ventricles, I found two tubercles, each of the size of a garden pea, hanging pendulous from the tentorium, two others of the same size in the medullary substance of the right hemisphere, and one oblong tubercle, of the size of an almond, suppurated in its centre, and imbedded in the pons varolii."

This fine boy, till attacked with headach, fever, &c. about a fortnight before his death, was apparently free from disease—was active,

diligent, and clever at his school! The following case is interesting.

"On the morning of Thursday, the 2d of August, about half-past eight o'clock, I was requested to visit, as speedily as possible, a boy of the name of Bell, residing in Poplar Lane, who had a little before been suddenly attacked with violent convulsions. When I arrived, the convulsive struggle was over, but there was still an occasional subsultus of the muscles of the face and of the arms. He was insensible and comatose; the pulse was very rapid, and the heart was striking against the side with remarkable violence. My inquiries were answered to the following effect: that his age was six years; that he had been upon the whole healthy, never had a convulsive fit before, was not liable to headachs, though he was to coughs ever since he had had measles; that he was in perfect health, in so far as could be discovered, on Tuesday; that he had taken his food that day, and had amused and occupied himself as usual, going to bed at the usual time without complaint; that, on Wednesday morning, when dressing, he complained for the first time of pain of the loins, and of that only; that, continuing to do so, and seeming listless and unwell, his aunt had, towards noon, given him a dose of Epsom salts, which operated four or five times, but without relieving him; that, on the contrary, though he kept out of bed all day, he complained more and more of the pain in the back and loins till night; that, towards eleven, he fell asleep, but frequently awoke and complained of this pain, and at length, towards three this morning, he seemed to suffer so much, that Mrs. Nichol, a midwife, residing in the same quarter, and an intimate of the family, was called to assist him; that she administered an enema, and observing what she called a great working about the breast, she applied two leeches to the sternum; that the excruciating pain of the back continued unabated; that he complained incessantly, and was extremely restless till eight o'clock this morning, when the convulsive attack supervened.

"Six ounces of blood were instantly taken from the arm; another enema was then administered, and a purgative powder, was directed to be given in a spoonful of gruel, so soon as the patient recovered the power of swallowing.

"But he never recovered his sensibility. The spasmodic twitchings of the muscles of the face and arms continued to recur at short intervals; and at half-past noon there came on another general convulsion, which continued, with little abatement, till one o'clock, when he died.

"Next morning the body was examined. The general appearance of the corpse was that of a well-grown boy of his age. The medulla spinalis, to which my attention was first directed, on account of the excruciating pain complained of in the back and loins, very carefully examined in its whole length, exhibited no trace of disease in its substance, its membranes, or its vascular system. The spinal nerves were equally sound.

"In the cerebrum I found three tubercles, and in the cerebellum one. Of those discovered in the brain, one the size of a small chesnut was found adherent to the arachnoid of the dura mater, and buried in the substance of the convexity of the posterior lobe of the left hemisphere, from which it was withdrawn along with the dura mater, on raising that membrane in the usual way from the cerebrum.

"When the softened cerebral substance, torn from the brain by the removal of this tubercle, was washed from it, the tubercle itself, of the size and shape nearly of a chesnut, appeared somewhat nodulated on its surface: it was very firm, of a grayish colour, and invested by a membranous cyst, having evident vascular and membranous connexions with the arachnoid, and with the brain. Other two tubercles were found, one in each hemisphere of the brain, imbedded in the medullary walls of the lateral ventricles in corresponding situations, a little above and between the corpus striatum and thalamus of either side."

Dr. Kellie has not met with any other case, in which a fatal crisis has so suddenly occurred at so early an age. In young people, the more common termination of such cases is by consequent arachnitis and hydrocephalus—in adults, by inflammation and softening of the cerebral substance.

From the Lancet.

ON PIAN, YAWS, OR FRAMBŒSIA.*

By M. Ferrier.

Pian, yaws, or frambœsia, is a disease endemical in some parts of Africa, America, and the East Indies, and is known in Canada as the Canadian disease; in Scotland, as sibbens; and in Norway, as radsyge. It is a pustular disease, which attacks all ages, all conditions of life, and as frequently one sex as the other; it is seated in the tissue of the skin, in the vessels and lymphatic glands.

This disease principally attacks the parts near the organs of generation, although it shows itself also on all parts of the body; care must be taken not to confound it with syphilis, dartres, leprosy, or other similar diseases; it differs essentially from these affections in its causes and symptoms, on which account it may easily be distinguished from them.

The predisposing causes are—a lymphatic temperament; extreme sensibility of the skin; exposure to the rays of the sun; habitual use of vegetable food; want of cleanliness; frequent use of spirituous liquors; suppression of respiration, occasioned by the sudden passage from heat to cold; remains of some diseases, such as the itch, dartres, or syphilis.

Exciting causes.—The causes which contribute to the formation of this disease, are the bad treatment to which the blacks are subjected; the nature of the ships which transport them from Africa to different parts for

* Repertoire d'Anatomie. Tom. 4, p. 4.

sale; the moisture of their huts, which are situated near marshy places; the custom which prevails amongst them of lending their clothes to each other; coitus, &c. This disease may also be produced by the bites of flies; but among the determining causes of pian, ought not the impression which is produced on the skin by the effluvia of marshes, and an atmosphere saturated with deleterious exhalations, to be ranked?

If it be admitted that the skin is a sponge, which imbibes humidity from the atmosphere, why should it be insensible to the miasmata which this humidity contains? I do not coincide with those who attribute, in a great degree, the development of the pianic eruption to the custom which is prevalent among the blacks of anointing their skin with fatty substances; this custom, far from being pernicious, may, on the contrary, be useful in certain countries, where the habitations are surrounded by marshes from which, in excessive heat, unhealthy exhalations, or miasmata, proceed.

Symptoms, progress, duration, and prognosis.—This disease is generally preceded by sense of weight, weakness, and pain in the joints; hard and frequent pulse, red tongue, together with great thirst. Sometimes nausea, and even vomitings, take place after meals; the shiverings, which sometimes happen, are generally followed by heat in the skin, and copious perspiration; soon after there appears, on every part of the body, particularly on the margin of the anus, in the groins, under the axillæ, &c., small blotches, or tubercles, which are violet-coloured in whites, and of an ash colour in blacks, and not so large at the commencement as the grains of pearl barley; they vary, however, in size and form, and present the consistence and hardness of warts.

The disease is gradual in its progress, the blotches are raised above the level of the skin; they vary in size from that of the head of a pin, to a large strawberry; their surface presents the appearance of the raspberry (from which the name *frambœsia* has been given by many authors, to this affection.) It sometimes happens that these pianic tubercles are so thick, that they adhere to each other; the epidermis, which covers them, is distended; it breaks, and there escapes from its surface a white, ichorous and glutinous liquid, which spreads an infectious odour, occasions great pain on those parts with which it comes in contact, whitens the hair, and causes it to fall off. This liquid is so acrid, that it acts upon metals, and corrodes the linen which is used for dressings.

In the second stage, the tubercles are situated more deeply in the cellular tissue; inflammation attacks the glands and lymphatic vessels, which are situated in this part. The irritation increases, when the patient is not submitted to proper treatment; and the pianic ulcers, instead of secreting a liquid like pus, only furnish an acrid matter, of a dirty yellow colour, spreading a particular odour, almost similar to that which passes from ulcers of a a syphilitic kind.

In the last stage, the tubercles degenerate into phagedenic ulcers; these are, at first, elevated, hard, and irregular, and give out a copious suppuration, which considerably reduces the strength of the patient; the inflammation is communicated to the pituitary membrane, which secretes an acrid fluid, and soon ulcerates. The ulcerations of the skin extend to the cellular tissue. The bones become carious, the breath fœtid, puriform expectoration takes place, pain in the abdomen manifesting inflammation of the viscera, a series of symptoms supervenes, announcing speedy death. On examination after death, the parts present a yellowish hard appearance; the epidermis is considerably thickened, and covered with small tubercles of irregular form, containing a glutinous liquid. In the cellular tissues, there are frequently observed depositions of tuberculated matter, having a white, or cheesy appearance. The glands and lymphatics are enlarged and distended, and in part ulcerated and disorganised. In some cases of this affection, the viscera have been found converted into a scirrhous mass. This disorganisation sometimes also occurs in the cellular tissue, muscles, ligaments, and cartilages; the bones are frequently found carious.

Treatment.—It is best, in general, to place the patient in a dry and elevated spot, at a distance from any marshes, where he may take exercise in the open air, which contribute in a very great degree to the cutaneous secretion, and the development of the eruption. All intercourse with persons attacked with pian, should be carefully avoided; the diet should be changed; animal food should not be given, if the patient be strong; if, on the contrary, weak, it will prove very beneficial.

Therapeutic Treatment.—At the commencement of the disease, the surgeon should have recourse to bleeding, if the strength of the patient permit. The use of sudorific drinks, as the decoction of sarsaparilla, or guiacum, often produces beneficial effects. The juice of these plants, that of vervain, taken at a dose of two ounces every morning fasting, in equal parts of milk, may prove highly advantageous; the use of purgatives, the warm bath, and steam bath, frequently prove beneficial. Sulphureous waters may also be employed. These remedies should be continued until the patient be completely recovered.

If it happens that some tubercles degenerate into spreading ulcers, the same treatment must be adopted, and the ulcers covered with lint, dipped in the chloruret of soda.

Most writers agree as to the treatment, and think that the oxymuriate of mercury is the best remedy which can be employed. I am, however, of opinion, that mercury not only produces little good in warm climates, but that it is injurious from the effects which it produces in the system, by predisposing the mucous membranes in general to inflammation, and the glands to a state of scirrhus or induration.

I conclude that this remedy ought not to be prescribed in the treatment of pian. As soon as this disease manifests itself, no time must

be lost, and the practitioner must not wait, as some advise, for the commencement of the drying of the pustules. Pian may attack the same individual several times; and, indeed, the person who has once been affected with the complaint, is liable to a recurrence of it. Pian is less severe in whites than negroes.

The complaint is contagious; it passes from negroes to whites; it is, however, of less frequent occurrence in the latter, and does not spread so easily as syphilis. I know several whites, who have had frequent connexion with negroes infected with framboesia, but who never caught it. This opinion does not coincide with that of most authors, but it is founded on numerous facts, which I have myself observed.

Alibert, in his splendid work on diseases of the skin, has described one, which he calls *pian ruboide.* I think, however, that this is not a pianic affection, but a sycosis of the scalp, as has been observed by Dr. Bateman. Dr. Bateman asserts, that the pianic eruption is generally observed on the scalp. I have seen and treated a great number of persons affected with pian, but I never saw it on the scalp.

Dr. Winterbottom says, that the tubercles are filled with an opaque and whitish matter. Before the tubercles break, no matter can be observed in them. When there is a depression of the skin, there is an ichorous discharge. Dr. Winterbottom also says, that it continues in children from six to nine months, and that adults are seldom cured in less than a year, and sometimes not in two or three years. Pian may be cured in three months, when it is attacked at its onset, and proper treatment is employed.

[Two cases of framboesia are related, which were cured by warm bath, venesection, sudorific drinks, and mild purgatives. No mercury was employed.]

From the London Medical Gazette.

STRANGULATED HERNIA IN AN INFANT TWENTY DAYS OLD.—*Operation.*

Treated by M. Dupuytren.—Hotel Dieu.

On the 14th of March, a male child, twenty days old, was admitted, presenting all the symptoms of a strangulated hernia: a shining and painful tumour in the bend of the right groin, descending to the scrotum, nausea, hiccough, stercoraceous vomiting, but not a complete suppression of stools. Leeches were applied, the infant was put into the warm bath, without success; the mother declared that this condition had lasted for three days. M. Sanson, who caused the child to be brought to the hospital, had no doubt of the existence of a hernia. M. Dupuytren examined the case with great care: the taxis caused a portion of the tumour to re-enter, which reappeared the moment the compression of the fingers was removed: uncertain as to the line of conduct that ought to be pursued, M. Dupuytren caused the infant to be taken to the amphitheatre, and proceeded to a fresh examination of the parts, preceding it by some general considerations, of which the following is a summary.

Inguinal hernias, according to the professor, are not very uncommon at this age, and even in female children the proportion of these hernias is greater than of crural, which he thinks may be attributed to the want of development in the pelvis; but what may be considered as very rare at so tender an age, is a strangulation so marked as to call for an operation. The present is the only instance of the sort which M. Dupuytren has met with in so young a subject; the testicle appeared to have descended into the scrotum; it is situated at the lower and posterior part of the tumour, which at its lowest part appears to contain a fluid, which extends along the cord, as far as the superior part of the inguinal canal, which it entirely fills.

Some cases, in which, from the symptoms, the existence of a strangulated hernia has been suspected, and in which the operation has proved the mistake of the surgeon, must be taken into consideration; three or four times a swelling of the cord has imposed upon the operator; lately, indeed, the professor was called upon by M. Husson to visit a female in one of the wards of this hospital, who suffered from the symptoms of strangulated hernia, and who had in her right groin a voluminous tumour, in which M. Husson believed that he discovered a fluctuation, and which he thought to be an abscess: M. Dupuytren being of the same opinion, opened the tumour; an enormous quantity of pus escaped, and the apparent symptoms of strangulation disappeared. In the case at present under consideration, the strangulation, if it exists, is made by the neck of the sac, and the intestine must have escaped at the moment that the testicle passed through the ring, and carried with it a portion of the peritoneum forming the tunica vaginalis. After a moment's hesitation, M. Dupuytren decided upon operating, this appearing to afford the only chance of cure, and not being likely, in the event of a mistake, to aggravate the infant's state. But before he did any thing to the upper part of the tumour, he proposed to make an incision in the lower portion, opposite to the spot where he felt the fluctuation: the tumour once opened, if the intestine was found, it would not be difficult to prolong the incision, and disentangle it.

This incision was made, and gave issue to a quantity of serum; the testicle appeared bare, known by its white colour; a knot of intestine appeared above; its brownish colour contrasted with the white of the testicle, and left no doubt as to its nature: the incision was then prolonged upwards, and the whole tumour laid open; the intestine was kept down by the fingers, and the division of the stricture made with a blunt-pointed bistoury directly upwards. But here an unexpected difficulty presented itself: the infant continued to cry incessantly, and thus to contract its abdominal

muscles; and it became impossible to reduce the intestine, which even escaped in greater quantity. The difficulties in reducing the intestine, the necessity of renewing the attempt several times, the small extent of the parts, and the muscular contractions of the child, rendered this operation long and painful. Before and during the operation, the child had several abundant stools.

After the operation, the fæcal evacuations became perfectly re-established—there were no longer hiccough, tension, vomiting, nor pains in the abdomen; but, whether the first dressing was made without due care, or whether the necessity of retaining the parts within the abdomen, induced the operator to tighten the bandage too much at the upper part, to the neglect of the lower, we know not, but when the dressing was removed the testicle was found outside of the wound: the house-surgeon could not replace it; it had contracted adhesions which M. Breschet would have destroyed, but an erysipelas had developed itself round the wound, upon the thighs, legs, and loins. M. Breschet inquired whether straps of adhesive plaster had been applied, to which the erysipelas might well have been attributed—but they had not; and therefore it became a question to what it was owing. It appears probable, that inflammation was produced by the compression of the testicle: its appearance out of the wound, its contact with the external air, and the dressings, might have contributed to it: had that been the case, perhaps it would have been right to have destroyed these adhesions at once, and to have reduced it directly, in spite of the inflammation to which its protrusion had given birth, and which tended to support it: however this might be, leeches, emollients, and two blisters to the legs, diminished the erysipelas, and induce a hope of the fortunate termination of the case.

From the London Medical Gazette.

VACCINATION.

To the Editor of the London Medical Gazette.

Sir—That a very general anxiety now prevails in this country on the subject of vaccination, will not, I presume, be questioned by any competent observer. In every family that I visit, something constantly occurs to bring it on the tapis: questions are every where put to me, touching the extent and degree of its protecting power; and every where do I find the same anxious but laudable desire to acquire some portion of that information on these points, which the world gives credit to the faculty for possessing. Under this impression, I have thought that a few pages of your excellent publication might (with reference to both the classes into which mankind may be divided—those who take physic and those who give it) be beneficially occupied with a discussion on the principal topics which at present occupy the public mind in reference to vaccination. We have ceased to talk about a spurious cow-pox, a phantom which disturbed so greatly the minds of our predecessors. We have happily ceased, too, to consider vaccination as the parent of those cutaneous complaints by which infantile life has always been, and will probably ever continue to be, infested. But the march of time, which has left behind these subjects of common gossip and professional debate, has opened to us some new and curious questions concerning vaccine influence; and to these I propose to limit my attention in the short series of essays now contemplated. Being desirous to make myself intelligible to all classes of your readers, I must beg the indulgence of my professional brethren if I am sometimes more elementary than would otherwise be necessary.

The first and most natural question which occurs to those who hear of the fact of small-pox taking place after vaccination, is—what is the *extent* of such occurrences? In other words, what proportion of the vaccinated are subsequently affected by small-pox in a well marked and cognizable form? Their second question usually has reference to the *severity* or *intensity* of such attacks. Every one feels that the answers to these questions involve the very pith and substance of the whole question, and they will deserve, therefore, the priority of discussion. The last report of the National Vaccine Establishment touches upon both points, but in so very loose a manner that I am tempted to doubt how far the reply there given will be deemed satisfactory by the public. With regard to the question of *extent*, they say, that "the number of those who *fall into* small-pox after vaccination, is not greater than that of those who formerly *died* by inoculation whilst that practice prevailed." How the members of the vaccine board have arrived at this conclusion, I am unable to say; nor do I clearly see whether they mean that the *absolute* or the *relative* numbers of those who take small-pox after vaccination, is greater than the deaths in old times by inoculation. Mr. Edmonstone, in his recent work, entitled "Observations on Cow-Pox," p. 150, has shown that, if every individual born in the three kingdoms was to be inoculated for small-pox, the number of deaths by that disease would be annually 700. But as inoculation was certainly not practised, at any period, upon more than one-third of the population, the deaths accruing in that manner could never have exceeded 233; and surely the Board could not mean to say that this is the amount of cases of small-pox after vaccination throughout the whole island. In the year 1827, I had 105 cases under my own care at the Small-Pox Hospital, besides several whom I attended at the St. George's and St. James's Dispensary, and others in private practice. To suppose that I had under my own care one-half of all the cases that occurred throughout the kingdom in that year, is manifestly absurd. The Board, therefore, probably meant to intimate that such was the *relative* number of

those who take small-pox to those who die by inoculation; in other words, that one out of 500 vaccinated persons are subjected, in after life, to small-pox. This, however, I have reason to consider very wide of the truth.

I have often thought that a fair ground of calculation, as to the extent of small-pox after vaccination, might be drawn from the following source. In the same year that I received 105 patients after vaccination, I vaccinated 3702 persons; that is to say, one out of every 35 may be said to have returned upon my hands. This calculation, however, requires some correction, from the consideration that other vaccine institutions do not, for the most part, receive variolous patients. Making a due allowance for this, therefore, I would consider that one in fifty will express, as nearly as our present knowledge authorizes, the proportion of vaccinated who subsequently take small-pox in a well marked cognizable form. Whether or not this proportion has yet reached its maximum, and whether the increased attention now paid to the performance of the operation is likely at some future period to *lessen* the proportion, are points on which I feel myself incompetent to argue at length. I would merely observe, *en passant*, that the proportion of admissions into the Small-Pox Hospital, of patients labouring under small-pox after vaccination, which rapidly increased from 1808 to 1822, has become stationary since that period. The proportion in this case, it will be observed, is not between those who take it and who do not take it after vaccination, but between those who have small-pox after vaccination, and those who undergo that disease without preparation of any kind, and it is now as one to three. This fact induces me to think that the maximum of vaccine imperfection, is now obtained, and that the probability is rather in favour of a *diminution* than of any increase in those unpleasant occurrences which have of late so strongly excited the attention of the public.

The second question relates to the severity or intensity of the attacks of small-pox occurring subsequent to vaccination; and here again we have the Vaccine Board expressing themselves in doubtful terms. "This disease," it is said, "is safe, though sometimes severe." If by this we are to understand that small-pox, after vaccination, never terminates fatally, which the word *safe* appears decidedly to imply, the assertion is directly at variance with their own former reports, with the experience of the Small-Pox Hospital, with that of several of our best writers, and with the documents published in foreign countries, where vaccination is said to enjoy, like a prophet, more honour than in its native country. In the National Vaccine Report for 1819, we find the following passage:—"Five cases have been reported to the Board, of vaccinated persons who have subsequently died of small-pox." In the report for 1820 it is stated, "In several of these cases the malady has been prolonged to its ordinary period, and in eight reported cases it has proved fatal." That the occurrences are afterwards satisfactorily explained without impugning the general efficiency of vaccination, is undoubted. Again, since my last Report of the Practice of the Small-Pox Hospital, dated Jan. 1, 1826, up to the present day, I have received 190 patients having small-pox subsequent to well ascertained vaccination, of which number five have died. Several of our writers offer their testimony to the same fact. Witness Mr. Edmonstone, of Newcastle, in the work just quoted, (a strenuous advocate of vaccination,) who informs us, that from the year 1801, to the 29th April, 1825, 42 cases were entered on the books of the Newcastle Dispensary with small-pox after vaccination, including both real and presumed, of which number five died, being in the proportion of 1 in 8. Lastly, we read in a valuable document recently published by the College of Physicians of Stockholm, that an epidemic small-pox raged throughout Sweden in 1824, in the course of which 560 persons perished, of whom 34 are reported as having been vaccinated effectually, and 69 doubtfully.

I have quoted these several authorities, not with the insidious design of injuring a cause which I profess to support, but merely to establish the fact itself which may next become the subject of more particular inquiry. It must be obvious to all who have watched the course of this dreadful disorder, (the small-pox,) that it proves fatal in two different ways: first, by the violence and extent of its own specific action; and, secondly, by calling into activity other latent diseases. The fact I believe to be, that small-pox very rarely indeed proves fatal by the first of these modes; but that it does occasionally prove fatal in the second, cannot, I apprehend, be doubted. Nor need this be a matter either of regret or surprise. When small-pox and its accompanying fever, once take possession of a weak, delicate, and scrofulous habit, or of one extremely plethoric,—when such a disease attacks persons recovering from other disorders,—when its inroads are synchronous with some other affection, say inflammation of the lungs or bowels,—he is a bold man who would attempt to set bounds to its injurious tendencies. The eye of the practised physician can, indeed, distinguish between the specific and the accidental modes of death in small-pox; but this nicety can never be made intelligible to the public mind, which, in the event of the patient dying within 30 days from the invasion of small-pox, will always be inclined, and not without some justice, to attribute the death to that cause.

From all I have read and seen, I would say, that the public are not so unreasonable as to expect that vaccination should prove a complete and never failing safeguard against the manifold dangers of small-pox. They well know the importance of a sound constitution in resisting its attack; and further, that in the "severe" cases which the Vaccine Board acknowledge, the result must, in some degree, depend on the skill with which the patient is

treated. All that, as it appears to me, the public requires, is an assurance, founded on clear data, that in its ordinary and regular course, small-pox, as it occurs after vaccination, is like a sore throat, or rheumatic fever, a safe disease; and that the deaths which it sometimes occasions are referrible to accidental circumstances, which no human foresight could have guarded against. But of the 105 cases of small-pox, after undoubted vaccination, which fell under my care last year, as already stated, I lost but one—a man vaccinated in Kent; and his death is attributable to the concurrence of small-pox of a severer kind than usual, with a diseased condition of the lungs which would alone have occasioned his death, in all human probability, in less than six months. That the general character of small-pox, as it occurs subsequent to vaccination, is that of a mild disorder, not implicating the great springs of life, is a fact fully established, and as well known to the public as to the medical profession. My experience among the out-patients at the Small-Pox Hospital enables me to say that such a complaint is not, in any degree, dreaded by the great majority of the lower and middling ranks throughout the metropolis and its neighbourhood. One woman applied to me, within the last two months, expressly for the *vaccine preparative*, and all who apply at the hospital are impressed with the belief, that a certain proportion of the vaccinated will, in after life, become the subjects of the mitigated, or mild small-pox, as they commonly call it.

The extent to which inoculation is now carried in London and in the country; the increasing practice of re-vaccination, with its advantages and disadvantages; the propriety of testing with variolous matter, and the probable sources of imperfection in the vaccine process, will form the subjects of my next communication.

I have the honour to be, Sir,
Your Obedient Servant,
GEORGE GREGORY.

From the Edinburgh Medical and Surgical Journal.

NOTICE OF THE APPEARANCES IN THE BRAIN *of a Young Female who attained her seventeenth year without giving Indications of Sensation or Motion from Birth.* Communicated by DAVIES GILBERT, Esq. M. P., President of the Royal Society.

The young person who forms the subject of the following notice, was somewhat prematurely born, and appeared at birth to be very feeble. She gave no indications of the usual instinct which guides infants to their natural food; and much difficulty was experienced in teaching her to take the breast. One eye was observed to be smaller than the other, which appeared to be of the natural size.

Except this excessive weakness in the muscular motions, and total deficiency of the ordinary sensations and appetites, nothing particular was remarked for several weeks after birth, when convulsive fits took place, and increased in violence and frequency of recurrence till they exceeded one hundred in twenty-four hours. Every method that could be suggested by various medical attendants to counteract these fits of convulsions was tried without success.

She nevertheless continued to grow in length much like other children. But the defects in motion and sensation increased and became more apparent. Though she originally gave indications of sight, blindness came on; and cataract was observed in the eye originally of the natural size. The sense of hearing, if it existed at all, was very obtuse. Latterly it was impossible to doubt that she was quite deaf. Though she got a first set of teeth, these were not succeeded by others, so that they were temporary only. The sense of taste seemed to be tolerably perfect, as fruit, confections, custards, and other sweet articles were received with indications of pleasure.

She never acquired any thing like the power of voluntary motion; and she attained her seventeenth year without ever having held up the head, raised her hand to her mouth, or set her foot to the ground. She never was heard to utter any thing like an articulate sound; and a feeble cry or whine only was believed to indicate want of food. When this was gratified, especially with sweet articles, the countenance exhibited an expression of satisfaction.

The bowels were habitually very slow, so as to require the perpetual employment of medicine; and to this no temporary exception was ever remarked. She never acquired any command over the sphincters.

For some short time previous to death the weakness seemed to increase; and exactly on the day when she completed her seventeenth year, she expired in a manner so gradual, that the attendants thought her asleep, when she was really dead.

I understand that some indications of the menstrual discharge had been observed; and the usual marks of puberty were not wanting. I am not aware, however, that the mammæ had enlarged.

Her length must have been equal to that of many young persons of her age. The spine and limbs were distorted; and the person was much emaciated.

Inspection of the body after death unfolded the following appearances, which are given in the words of the surgeon who performed the dissection.

"On opening the cranium, the first thing which presented itself to observation was the very great distention of the vessels of the brain and of its membranes. The first longitudinal sinus was particularly gorged, and marked its course by a raised dark blue line extending across the dura mater from before backwards. We laid it open, and found it filled with coagulated blood.

"On proceeding with the dissection, we found some little water in the lateral ventricles; but this is often poured out after death

in the healthy subject; and as the contents of the ventricles were perfect, more particularly the optic thalami, I should be inclined to consider that as a natural appearance.

"On removing the brain from the basis of the scull, so as to expose the nerves, we could trace each pair taking their usual course to their destination; and they all appeared firm and healthy, as in the most intelligent individual. But in the base of the scull itself, not a vestige of the dura mater was to be seen. Its place was supplied by a thin semitransparent membrane, very lax and irregular, so that it afforded no protection to the nerves in their exit from the scull.

"On the back part likewise the whole, or the greater part of the *tentorium* was deficient, thus allowing the whole weight of the brain to rest on the cerebellum.

"We proceeded carefully to trace the nerves to their separate organs, and found them in every respect seemingly perfect. Indeed the optic nerves appeared particularly developed, as also the ophthalmic branches, although cataract existed in both eyes to a very considerable degree. Nothing further appeared worthy of observation. From these circumstances I should be inclined to say, (as far as human research can explain the mysteries of our nature) the causes of the child's deficiency were as follow.

"That from the want of the *dura mater* on the base of the scull, and its place being only imperfectly supplied by the thin expansion before mentioned, the mass of brain was allowed to press on the nerves of sense as they passed through their separate foramina, and thus their vital principle became destroyed; and that the cerebellum, not having any protection, in consequence of the want of tentorium, was also pressed upon by the cerebrum, which likewise suffered in its turn, thus probably accounting for the total extinction of intellect."

(Signed) James Coles,
Member of the Royal College of Surgeons,
Feb. 1826. *London.*

The defect of tentorium and of the sphenoccipital portion of the *dura mater* in the case now related is important, in directing the attention to the probable influence of one part of the organ pressing or gravitating, as is said, on another. That this influence, however, may not be overrated, it is requisite to mention that Sir Anthony Carlisle published many years ago in the first volume of the Transactions of the Society for the Improvement of Medical and Surgical Knowledge, the history of a woman apparently near 20, who died with symptoms of fever in the Westminster Hospital. In the brain of this woman the *falx* was entirely wanting from the *crista galli* to the *tentorium*, the opening in which also was much larger than usual; and consequently, not only did the one hemisphere press the other, but part of the brain gravitated on the cerebellum. Yet in this woman the intellectual powers were said to be perfect; and she had no particular complaint of her head. Vol. i. p. 212.

From the London Medical Gazette.

CYSTS CONTAINING A WATERY FLUID, APPARENTLY CONNECTED WITH THE LIVER.

To the Editor of the London Medical Gazette.

Sir,

I am induced to send you an account of the two following cases, first, because I am not aware that any cases exactly similar to them have been recorded by pathological writers; and secondly, because I have lately had an opportunity of seeing one of the patients, and have thus been enabled to ascertain that the slight operation which was performed upwards of five years and a half ago has afforded her a permanent relief—or at least that up to the present period there has been no indication of any recurrence of the disease.

I am, sir,
Your obedient servant,
B. C. Brodie.

Saville Row, Jan. 20.

Case I.—In the spring of the year 1822, I was consulted, in conjunction with a respectable medical practitioner of my acquaintance, respecting a young lady about 20 years of age, who laboured under a considerable enlargement of the parts situated in the right hypochondriac region. On examination we discovered a tumour, in which the fluctuation of fluid was very perceptible, lifting up the inferior ribs of the right side, and projecting forward so as to be visible below the edges of the ribs also. This tumour had begun to appear indistinctly a year or two before; at first producing more pain as it grew larger, and occasioning also much inconvenience to the patient by preventing her from sleeping, except in a particular position, and from taking exercise.

The tumour continued to increase in spite of some remedies which were recommended; and as the inconvenience which it produced increased also, I was led, on the 27th of June, 1822, to puncture it by means of a flat trocar cautiously introduced below the margin of the ribs. About three pints of watery fluid were evacuated. Care was taken that no air entered the orifice made by the trocar. The edges of the wound were brought together by means of adhesive plaster, and they healed by the first intention.

A bandage was applied round the upper part of the abdomen, and the patient was kept in bed for the first few days after the operation.

For two or three weeks she suffered from a troublesome and almost incessant cough. As the cough subsided, she found herself to be very much relieved. She was now free from pain, was able to walk as well as other persons, and to lie in any position.

About a fortnight ago I was again consulted by the same young lady, but it was on account of another complaint, and I was gratified to find that she had continued quite free from any of her former symptoms.

Case II.—In August, 1822, a little boy was admitted into St. George's Hospital, under Dr. Chambers, with a tumour presenting itself be-

low the margin of the ribs on the right side, lifting up the ribs also with a distinct fluctuation, and altogether very nearly resembling the tumour which existed in the case just related.

In the following September it was determined, in a consultation between Dr. Chambers and myself, that I should puncture the tumour. Accordingly, a flat trocar was introduced below the margin of the ribs, and a pint and a half of watery fluid was drawn off. The wound healed by the first intention, without the smallest inconvenience arising from the operation. The boy left the hospital as cured, and I have had no opportunity of seeing or hearing of him since.

The fluid drawn off was exactly the same in both of these cases. It was clear and colourless, resembling water in appearance; it contained no coagulable lymph; and when exposed to heat in a spoon over the flame of a candle, it almost wholly evaporated, leaving the smallest possible residuum of animal matter.

From the situation of these tumours I was led to believe that the disease must have been situated in the liver.

Cysts are found in the liver containing hydatids, but the circumstances of there being no *débris* of hydatids in the fluid drawn off, and of there having been in one instance, at least, no return of the disease at the expiration of five or six years, seem to be at variance with the opinion that such was the nature of the tumour in either of the above cases.

Not unfrequently I have noticed in dissection a membranous cyst projecting on the convex surface of the liver, containing a clear, watery fluid. The cysts to which I allude are generally of the size of a marble. The largest which I have chanced to see in the dead body might have contained from one to two ounces of water: but there is no reason why such a cyst should not increase so as to attain a very large size, and I can offer no better explanation than this of the cases which I have now recorded.

A late number of the above Journal contains the following case by Dr. Anthony Todd Thompson.

In the summer of 1813, I was requested to see the apprentice of a baker in Chelsea, who was supposed to be labouring under hepatitis, for which he had been twice salivated; once in an hospital, and again under the direction of a general practitioner. The boy was about 14 years of age, rather short in stature, of a sallow complexion and sickly appearance. He complained of no acute pain, and said he had never felt any; but he experienced considerable difficulty of breathing, and could obtain no sleep except in a nearly erect position. He ascribed this inconvenience to "a swelling at the pit of the stomach," to use his own words, "which had been coming for upwards of two years."

On examining the tumour, I found that it was situated under the margin of the ribs, towards the right side, and protruded forward in a pyramidal shape, nearly the size of the human fist. It was tense and elastic, and afforded indistinct indications of containing a fluid. Although sallow, yet the boy did not appear to be jaundiced: the eye was free from any yellow tinge, the tongue was clean, the pulse regular and moderate, and the alvine discharges natural. As no benefit had been derived from the mercurial courses, nor from any medicines which he had taken, I resolved to open the tumour, and puncture it with a common hydrocele trocar. Upwards of three pints of watery fluid were evacuated, which slightly coagulated when a portion of it was heated in a spoon over the flame of a candle. The wound healed by the first intention without confinement, and without a dose of medicine having been taken. I conclude there has been no return of the disease, as the patient was desired to apply to me again should the tumour re-appear; and I have not seen him from that time to the present period.

I am inclined to believe, with Mr. Brodie, that the fluid, in these cases, is contained in a cyst attached to the surface of the liver.

From the London Medical Gazette.

Case, in which an adventitious Membrane was found adhering to the inner Surface of the Cerebral part of the Dura Mater. By T. H. Holberton.

George Mason, æt. two years and three months, up to the age of ten months was a particularly healthy and forward child. At this period he cut the incisor teeth of the lower jaw, and had the slight fever which generally accompanies dentition, but in so trifling a degree, that the mother merely gave him an occasional dose of opening medicine, not thinking his illness of sufficient importance to require medical advice. The child, however, grew worse; and a month afterwards had the first of a series of fits, which continued to recur with more or less frequency during the remainder of his life. By the fifth month from the attack, the child then at the age of fifteen months, lost all knowledge of its parents, took no notice of external objects, and lay in a seemingly insensible state, being unconscious to the calls of nature. He felt, however, sensations of hunger, and signified by his cries when he desired food; yet he could not perceive the presence of it till it was placed on his lips, when he usually ate it with a good appetite. He could move his arms and legs, but could not stand.

When I first saw him he was clearly labouring under compression on the brain. Pupils widely dilated, insensible, and immoveable on the application of a lighted candle near the eyes. There was strabismus, eyes rolling in every direction, particularly from above inwards; the breathing was natural; there were frequent convulsive fits; the bowels were regular. He had during the last week or ten days of his life, frequent twitchings of the left leg.

Examination after death.—The skull-cap was preternaturally thickened, but the head was of the ordinary size. On opening the dura mater there was found upon its under surface a membrane for the most part three lines in thickness, and closely attached to it. This membrane completely lined the cerebral surface of the dura mater, excepting only at the fore-part of the base, viz. at a short space around the optic nerves. Underneath this membrane, and between it and the arachnoid, was contained rather more than half a pint of serum. There was no collection of fluid at any part between the false membrane and dura mater. The adventitious membrane appeared perfectly organized; its unattached surface was very vascular, and in parts much inflamed: this surface admitted of being separated as a distinct and continuous membrane, extremely fine and transparent.

The arachnoid membrane covering the brain was, perhaps, in a slight degree, firmer and thicker than usual. There was some effusion between it and the pia mater.

The pia mater on the surface of the brain was preternaturally vascular, as was that portion dipping between its convolutions.

The choroid plexuses were gorged with blood, and resembled a dark coagulum of a shining, purplish hue, approaching to the colour of a well-ripened black grape.

The cerebrum generally was very much harder, and the convolutions were much wider than natural. The medullary portion moreover was altered in colour, being of a yellowish tint; behind the lateral ventricle the substance of the brain was softened.

The cerebellum was much firmer than usual, so as to render the laminated structure beautifully distinct.

The adventitious membrane was not present at the under surface of the tentorium, nor around the cerebellum at any part; it adhered only to that part of the dura mater which surrounds the cerebrum.

The preparation is in Mr. Mayo's Museum, Great Windmill Street.

From the London Medical Repository.

MALA PRAXIS.—Rolfe v. Stanley.

A case of great interest to medical men was tried in the Court of Common Pleas about a fortnight ago. It was an action brought by a person named Rolfe against Mr. Stanley, Assistant Surgeon to St. Bartholomew's Hospital, to recover damages for an alleged neglect and want of surgical skill in the treatment of an injury of the knee-joint. We shall lay before our readers the evidence given on the occasion, as well as the charge of the learned judge to the jury, and leave them to form their own opinion of the merits of the case.

Mr. Sergeant Cross stated the case, and called the following witnesses:—

Mr. Henry V. Garman stated that he is a surgeon-apothecary. On the 2d of December, 1826, he was in the neighbourhood of Mile-end road, and was called to attend the plaintiff. He found him in a cottage about half an hour after the accident occurred. He appeared to have received a laceration of the right knee-pan, in which there was a hard and moveable substance. He washed away all the superficial particles, and, after putting on some simple application, he took him home. He went first for Mr. Green, the surgeon, but not finding him at home, called for Mr. Stanley, who resides in Lincoln's Inn fields. He came in three hours after, and the patient's knee was more swollen. Mr. Stanley appeared to me to have made a proper examination, and he requested me to put the limb in splints, to prevent the motion of the joints, and keep the limb quiet.

Mr. James Rolfe, the father of the plaintiff, said he was not present when Mr. Stanley examined the plaintiff's knee, but when he came down stairs he prepared him for the worst. He said the plaintiff would have a stiff joint as long as he lived, and that he might be glad if nothing worse occurred. He added, that there was a shocking fracture, and about the fourth or fifth part of the knee-pan was broken off. The splints remained on for five or six days, when Mr. Stanley took them off and bent the knee, which caused such excruciating pain, that the plaintiff was obliged to request him to desist. When the splints pressed on the hard substance, it made him quite sick with pain, and he was always pushing them down. When this was told to the defendant, he said the patient must have patience. Mr. Stanley used sometimes to attend twice a-day for the first six days, and when spoken to on the subject, he said the knee-pan was broken, and the hard substance felt in that part was a portion of the knee-pan, broken off. On the 18th January, he said he could not do any more for him, and that his cure depended more on himself than upon him, the defendant. When the plaintiff got well enough to be removed, he was sent to Hammersmith for a change of air. The wound then swelled as large as his head, and discharged a quantity of matter, in consequence of which it was necessary to call in Mr. Lilly. The plaintiff was not able to attend to business during this time.

Cross-examined—He did not walk to see the Duke of York's funeral, but went in a coach. Mr. Stanley discontinued his visits about that time. Mr. Stanley might have called on that day, but he could not speak positively. The plaintiff's principal object for going to Hammersmith was to see the Duke of York's funeral; he also thought the change of air would do him good. During his absence Mr. Stanley called twice. The plaintiff came back in a fortnight from Hammersmith.

Re-examined—Mr. Stanley said he might take moderate exercise as soon as he was able; his son always pointed out the knee-pan as the seat of pain.

Examined by the Judge—He did not think Mr. Stanley had notice of the discharge in the plaintiff's knee.

Mr. Charles Lilly is a Member of the College of Surgeons. He was called in to attend the plaintiff in September; he found him very feeble; there was a hard moveable substance in the knee-pan, near the surface. He examined it, and advised soothing poultices to be applied, and the patient to be kept quiet. In a month his health was very much improved, and on examining the knee at the end of the second month he found the hard substance had advanced so near the surface that one point of it had come through the wound. He enlarged the orfice, and extracted the flint now produced, and afterwards removed a second piece of flint; a third portion came out in the dressing of the knee. The pan was certainly not fractured; and if it had been broken, that could undoubtedly have been discovered.

Cross-examined—When first he saw the knee, he thought the hard substance was bone. He could not imagine where it came from, or pretend to say how it arose. Exercise, he supposed, would tend to bring the hard substance to the surface, but nature would, of course, have the same effect; if the mode of treatment required that no probing should take place, the same course would be adopted whether there was a piece of bone in the knee-pan, or a foreign substance.

Re-examined—It would be impossible to say, from the appearance of the scar, if it was large enough to admit the piece of flint. If that had been taken out in the first instance, the wound would have been healed when he first saw it.

Mr. Sergeant Taddy addressed the Jury for the defendant, and called the following witnesses:—

Sir Astley Cooper, Bart.—I have attended to the accounts given by the different witnesses, and, having given the subject all the attention I am capable of, I cannot discover any want of skill or attention on the part of Mr. Stanley; and if I had discovered a hard substance under the same circumstances, my mode of treatment would have been the same as Mr. Stanley's. The present was a very doubtful case, and one which required great caution. No man is more informed in anatomy than Mr. Stanley. Probing the wound at that time might have destroyed life, or, at least, occasioned the loss of the limb; for the smallest wound made in the knee-joint, such as that made by probing, might have destroyed life. I have seen an opening in that part less than that which might be made by a crow-quill, and such opening, to my knowledge, destroyed life in less than a week. If an incision had been made, or probing used under these circumstances, he (the surgeon) would probably have opened the knee-joint in doing so, and in that way would have inflicted some serious injury upon the limb, and this latter mode of treatment ought not to have been followed under such circumstances. A fall from a horse would be likely to break the patella, and it is the only way I have known longitudinal fractures of the patella occur. The natural process for a hard substance (as in the present case) is to approach the surface of the skin. I think Mr. Stanley a most complete judge in such cases; and if I had been in attendance upon the patient, I should not have varied the treatment in any way from that followed by the defendant.

Cross-examined—I consider myself capable of saying what treatment ought to be used in a case I had not seen, supposing all the circumstances are afterwards detailed to me. I have heard the facts from Mr. Stanley before I came into court; he called on me and mentioned the circumstances, and I gave my opinion on his statement of the case; but my opinion has been very much influenced by the evidence I have heard to-day, and particularly by the clear and distinct statement of Mr. Lilly. I believe the knee-joint was not broken. If I had been called to attend a patient who complained that a certain spot was the seat of constant pain, I should (if any new circumstances occurred) look again at the wound; but, if I had made up my mind from the beginning, from my knowledge of anatomy, I would not alter the mode of treatment; it would be very dangerous to be constantly removing the bandages, and I should say that the man who would frequently examine fracture, and remove bandages for that purpose, would be a very unskilful surgeon, and extremely unfit to have the care of a patient.

Mr. Sergeant Cross—There was no fracture in this case; I therefore wish to know from the witness if, in case the patient frequently pointed out a part as the seat of pain, whether he (Sir A. Cooper) would not have examined that part a second time, in order to see if there was any thing which required further consideration?

Sir A. Cooper—If I thought I could relieve pain by again examining the wound, I should do so; but I would examine a case of this kind, in the beginning, and, having made up my mind on the nature of it, I would not vacillate in my opinion, or alter the general mode of treatment.

Re-examined—Mr. Stanley did every thing a good surgeon could do, and left nothing undone. This is my opinion, putting out of my mind all I have heard out of Court, and judging only by the evidence adduced to-day. I must say that I came into Court with some doubt; but it was the evidence of Mr. Lilly that made me as firm as I am at present.

Mr. Brodie stated, that he is a surgeon of St. George's hospital. He had been in Court since the opening of the case; and, judging by the evidence alone, he was convinced that Mr. Stanley had shown no want of skill or attention. A fracture of the patella is not uncommon when a fall from a horse has taken place. It would not be easy, under the circumstances, to distinguish a piece of bone from a foreign substance. If witness had been called in he would have followed the same mode of treatment as that pursued by Mr. Stanley, whom he considered a skilful anatomist and experienced surgeon.

Cross-examined—If he had been employed

to attend the patient, he would have kept him as quiet as possible, and done every thing to prevent inflammation. He does not recollect any thing else he would have done on the occasion. A person who saw the wound eight or nine months after the accident, might be better able to judge of it than at first; and a surgeon who examined it three hours after it occurred would see it to a disadvantage, as the part must then be considerably swollen. He heard several accounts of this case. The first was from a friend of the plaintiff; the second from the defendant; and the third from Mr. Lilly. From all he heard on the subject, he did not think that any blame was attributable to Mr. Stanley.

Mr. Travers and Mr. Green, surgeons at St. Thomas's hospital, concurred in stating that the defendant had pursued a skilful and proper course of treatment in the present case, and that no blame could attach to him.

Mr. Bell, an eminent surgeon, said the defendant had used all due skill and attention in the mode of treatment above referred to.

Cross-examined—Some doubt might have been caused in his mind by the pain not subsiding, and the hard substance not adhering to the knee-pan after two months.

Mr. Abernethy was next examined, and he stated that if he had been called to attend the plaintiff, he would have followed the same mode of treatment used by Mr. Stanley, against whom he saw no cause of complaint on the ground of want of skill or attention.

Mr. Sergeant Cross having replied,

Mr. Justice Burrough summed up the case, and observed that if the Jury were of opinion that the defendant had been deficient in point of skill, or negligent in his attention to the plaintiff, they must find a verdict for the latter; but if they were of opinion due care had been used, and proper talent exercised, the defendant was entitled to their verdict. Some of the first surgeons in Europe all agreed in saying they would have done as Mr. Stanley had done; and, what was remarkable, they all said it would have been dangerous to have made an incision at the time; but, considering the evidence of the very learned surgeons who were examined, the plaintiff's case was extremely weak. If they (the Jury) believed what these witnesses said, he could not fancy but their verdict would be for the defendant.

The Jury, after retiring for an hour, returned with a verdict for the plaintiff.—Damages 30*l.*

Medical and Philosophical Intelligence.

On the tendency of Matter to become organized.—We noticed, on former occasions, M. Bory de St. Vincent's observations on those ambiguous beings, which, during a part of their life, are collected into filaments, whose colour and general aspect are those of vegetables, and which, at certain periods, separate and assume the voluntary motion of animals. M. Gaillon, an enlightened observer, the author of an interesting memoir on the cause of the green colour in oysters, has discovered that it is produced by the *Conferva comoides*. He has seen the greenish corpuscules, which form its axis, become detached, advance with more or less rapidity, change place, and, in short, act in all respects like enchylides and cyclidia. Taking entire filaments, he forced these minute beings to separate before the time; and, in this case also, they manifested the same voluntary movements. Their propensity to associate is so great, that, whenever the young can do so, they arrange themselves, one after another, in a single line; and, when in this position, M. Gaillon thought he observed them to exude from their substance a mucosity, which forms itself into a membrane, and entirely envelops them*. M. Bory de St. Vincent has continued to occupy himself with these microscopic transformations, having in view to penetrate to the first combinations of matter to which these corpuscules seem so near. Observing the appearances successively presented in water exposed to light, he thought he saw, for the first time, matter assume the aspect of a simple mucosity, without colour or form. If the water contains any animal substance, it produces a pellicle of this mucosity at its surface, then becomes turbid, and discloses an infinity of living atoms, if we may so call those monads, which, after being magnified a thousand times, are not so large as the point of a needle, and which yet move in all directions, with prodigious velocity. This is what M. Bory names matter in the living state. When the water is exposed to the air and light, there quickly forms what is named the green matter of Priestley, which many observers have supposed to be the first state of certain confervæ, or plants of a like nature. M. Bory thinks that it is a combination of a more general form, and only susceptible of entering into the composition of these plants, as well as of the animalcules which issue from it, and which produce them. He names this combination *matter in the vegetative state*. It is by it that the infusory animals are rendered

* M. Mertens, a botanist of Bremen, has observed similar facts on the *Conferva mutabilis*. On the 3d August, he says, it was in its vegetable state; on the 5th it resolved itself into molecules possessed of mobility; on the 6th some of these molecules united into simple articulations; and, on the 11th, it was restored to its original form.

green. Those which colour oysters, according to M. Gaillon's observations, produce this effect, as M. Bory says, only because they are themselves coloured by the green matter. It colours, in the same manner, the water and the shells of these oysters; and it would not be impossible to find some tinged directly by this matter, without any animalcules having penetrated into them. It is so difficult to render observations of this kind complete, and one may always so easily suppose an anterior state, still more attenuated, and which may have escaped every microscope, or invisible germs, which the necessity of the concurrence of air prevents from separating, that many philosophers will probably refuse to admit the consequences, which the author would draw from these facts, for attributing to matter a general disposition to become organized, which would be independent of the ordinary mode of generation.—*Mem. de l'Acad. Roy. des. Sc.*—*Ed. New Phil. Jour.*

Disease of the Heart caused by Onanism.—Dr. Krimer, of Aach, has lately published an interesting paper on this subject. Our own experience has furnished us with several opportunities of seeing cases of the kind he describes; and as the subject has not hitherto been particularly discussed; we shall give the leading points of his communication. Dr. K. is of opinion that diseases of the heart, which have increased so much within the last twenty years, do not always depend upon organic alteration, but are very frequently produced by the baneful and lamentably frequent practice of the vice of onanism. Headachs, great anxiety, palpitations, faintness, an oppression and unusual sensibility in the epigastric region, are the first symptoms produced. They increase in severity in proportion as the subject gives way to the gratification of his unnatural propensity, and quickly diminish, or cease altogether, if he abandons it. To support his opinions, M. K. states many cases. He enumerates the following symptoms as pathognomonic of such affections of the heart; by an attention to which, the practitioner will be enabled to distinguish the train of symptoms from other diseases which are not unfrequently suspected.

1. The hair loses its natural brilliancy, is remarkably dry, and frequently splits at the extremities. It falls off easily and in large quantities, especially from the fore part of the head. In persons affected with consumption, or organic disease of the heart, the hairs appear well nourished, and rarely fall off.

2. The eyes are dull, downcast, frequently full of tears, and without expression, and deeply sunken in their orbits. The edges of the eyelids are reddish, and surrounded by a bluish tint. In phthisical patients, and those with organic disease of the heart, the eyes are brilliant, and always preserve their natural expression and vivacity. In young females, at the approach of menstruation, a blue circle is commonly observed around the eyes, but here also their brilliancy is undiminished.

3. The patient appears very timid, and unwilling to look other people in the face.

4. Periodical headach is common, extending from the occiput towards the forehead.

5. The power of sight is diminished; the appetite is lost; the tongue is usually loaded. A slight cough, and difficult respiration, are generally present; but still the patient can draw a deep inspiration.

6. Pains in the stomach, with weight and pressure in the epigastric region. Patients with organic diseases of the heart have occasionally these symptoms, but in such cases, they are not accompanied by those above enumerated.

7. A general feeling of lassitude, and feebleness of the limbs, with pains in the lower part of the back. We would add also, that pain and throbbing of the testicles, with uneasy sensations shooting up the spermatic cord, are frequently complained of.

8. The perspiration has a dull and sweetish odour, similar to that of infants at the breast.

9. If the vice of onanism be touched upon in conversation, the agitation and embarrassment of the patient invariably betray him.

10. If the practice be continued, the mind is at length enfeebled, the patient is incapable of mental or bodily exertion, and sinks into a state of somnolency.—*Hufeland's Journ.*

Period of the Disease at which Measles begin to be infectious.—Various opinions have been entertained regarding the period at which small-pox, measles, and other exanthematic diseases begin to be capable of propagating themselves. It is unnecessary for our present purpose to particularise these opinions and the foundation on which they rest. It is enough to mention that many believe measles in particular not to be infectious till the eruption has broken out. The following observation lately made by Dr. Harnier of Pyrmont establishes satisfactorily the contrary. A London merchant set off from London for Pyrmont on the 30th June 1825, along with his wife and three children, leaving behind, under the charge of a nurse, a fourth child, who had been attacked the day before apparently with catarrh. The party arrived at Pyrmont on the 8th of July, and had not been long there before they heard from London that the illness of the child left behind had turned out to be the measles, the eruption having appeared on the 1st July. Meanwhile one of the children at Pyrmont, the play-fellow of the one left behind, had been taken ill on the 9th with what appeared to be a common catarrh, and the rest of the family were not kept apart from him till the 11th. On the 12th the eruption of measles broke out. On the 24th and 25th of the same month the two other children, and three little girls belonging to the house where the family lodged, likewise fell sick, and in due course of time all of them had the eruption of measles. The five little patients had not seen the second child after the 11th, *the day before*

the appearance of the eruption, and the three girls of the Pyrmont family had even been sent out of the house altogether. There was not a case of measles at the time in Pyrmont, and in consequence of the strict seclusion of the different patients, the disease did not spread.—*Edinburgh Med. and Surg. Journal.*

Rupture of the Pulmonary Artery.—This very rare occurrence is described by Mr. Adam Junior, in the Calcutta Transactions. It took place in a native of Switzerland, whose constitution was worn out by intemperance and a thirty years' residence in India. The patient died suddenly, though for two days before he had suffered from paroxsyms of acute pain in the right hypochondrium, accompanied with difficulty of breathing, so as to render a change from the recumbent position intolerable. But during two years he had had an intermitting pulse, palpitation, and difficulty of breathing. On dissection, the right cavity of the chest was found to be filled with blood. The walls of the right ventricle were very thin, the valves of the artery were in a state of ossification, its parietes extremely thin, even dilated to four times their usual size, its circumference being not less than seven inches. It contained an organized polypus, extending from the semilunar valves about four inches along the artery. The rupture had taken place in the middle, and on farther examination it appeared that there was an opening in the centre of the polypus, through which the blood seemed to be transmitted from the ventricle to the lungs. The aorta and its branches were highly ossified. —*Edinburgh Med. and Surg. Journal.*

Death caused by the external application of Opium.—The application of opium in considerable quantity to the skin when deprived of its cuticle is a practice by no means free from danger; and when it is resorted to for allaying irritation, it is necessary to watch the patient carefully. We are acquainted with an instance in which deep coma was induced by the application of an opium poultice to the scrotum previously deprived of the cuticle by a blister, and which would in all likelihood have proved fatal, had not one of the patient's friends called accidentally to see him and discovered the cause of his state of sopor. The following is an example of death originating in the same source, although the skin was not deprived of its cuticle. A soldier, thirty-two years of age, was attacked with phlegmonous erysipelas of the fore and outer part of the right leg, on account of which a linseed poultice, moistened with *fifteen drops* of laudanum, was ordered to be applied to the limb. Next morning he was found in a state of deep sopor, with the face pale, the eyelids tremulous and half open, the pupils contracted, the lips distorted, the muscles of the face affected with spasm, and those of the limbs with convulsions. The surgeon having remarked a strong odour of opium, as well as a yellow coloration of the bandage which enveloped the limb, he had it removed, and found not only the bandage but all the compresses soaked with laudanum, which was flowing copiously from the poultice. The attendant whose duty it was to make up the poultice had left it in charge to an hospital servant without telling him what quantity of laudanum was to be used; and the latter had ignorantly used towards an ounce. Antispasmodics, emetics, and sinapisms, were resorted to, but in vain. The convulsions increased, the pulse became more and more feeble, and the patient died. On inspection some red points were seen on the arachnoid, a strong opiate odour was exhaled from all parts, and the heart, stomach, and brain were in their healthy state. In the blood-vessels no trace could be found of the poison which had been absorbed.—*Journal de Chimie Médicale.*

Case of Double Uterus, with Double Impregnation.—An extraordinary case of this description has been related by Dr. Geiss, a physician of Traffurth near Erfurt. The woman had been in labour for two days, when he was requested to attend her. He found her a stout, healthy female, of middle stature. The labour-pains were confined to the right side. On the right side the womb reached as high as the thorax; on the left it did not extend above the navel, and inclined fowards and laterally. The external parts and os uteri were properly constructed, and the shoulder of the child could be felt behind the membranes. The operation of turning was performed, and a healthy female infant delivered, upon which the right side of the abdomen sunk in while the left continued prominent. In an hour the labour-pains recurred, and on examining the state of the parts, Dr. Geiss found, that after passing the os uteri, the finger came in contact with a membrane distended by fluid, and protruding through an annular opening towards the left side, while the navel-string of the child already delivered, extended upwards into a cavity like the uterus in ordinary circumstances. On farther examination, he found the belly of a second child presenting at the accessory orifice, and therefore performed the operation of turning, and brought into the world a stout still-born male child, which was soon resuscitated. As no placenta followed for some time, he proceeded to assist the separation of them, and had then an opportunity of completely satifying himself that his patient had a double uterus. The right placenta came away first, and the right womb contracted vigorously; the left placenta followed, but the uterus of that side contracted slowly, and the woman therefore lost a good deal of blood. Two months afterwards the mother and both children were in good health. Two years before, she had brought a single child, and the labour was tedious, and required manual aid to accomplish.—*Rust's Magazine.*

Rare Aneurismal Disease of the Temporal Arteries.—The following is an account of the dissection of the case recorded under the above title in the February number of the Monthly Journal of Foreign Medicine. The patient was admitted, a short time since, into the Middlesex Hospital, for lumbar abscess, of which he eventually died. The tumour at the time of his death was large, and pulsated very strongly.

On dissection, the posterior temporal artery was found to divide into two branches, one running, as usual, beneath the skin, the other perforating the tendon of the occipito-frontalis, and then, considerably enlarged, twisting and turning and coiling upon itself, looking, when injected, as like a varicose vein, as it is possible for a vessel which has no valves, to resemble one which has them. On examining the neck, the common carotid was obliterated, and converted into a cellular cord just up to its bifurcation, whilst the jugular vein was in nearly the same state of degeneration from the site of the ligature up to the division of the carotids, from which to the base of the brain it was plugged with coagulum. There was much pus at the basis cranii, and around the commisura tractuum opticorum; it lay between the pia mater and arachnoid, and was continued within these membranes down the whole length of the spinal cord. The cranium was somewhat grooved beneath the tumour, just as it would be beneath a powerful muscle, but the pericranium was entire, and the inner surface of the bone was *perfectly smooth and equal."—Med. Ch. Rev.*

Diseases of the Placenta.—The cause of death in still-born children is seldom inquired into, and there is, perhaps, no branch of pathology involved in greater obscurity than that connected with the fœtus and its appendages in utero. Death is generally attributed to some malady affecting the child itself, neither understood nor sought after, or else to a separation of a part, or the whole, of the placenta from the surface of the uterus. It is seldom that the condition of the placenta itself is examined, and it is perhaps as seldom that the child undergoes any inspection. That the placenta is liable to disease, like every other vital part, is sufficiently proved by the fact, that a part of it is not unfrequently found converted into a cartilaginous or osseous state. It might be inferred from this that it is subject to other diseases, and that these diseases must frequently be the cause of the death of the fœtus. That this is the case, M. Brachet, physician to the Hotel Dieu, clearly shows in the Journal Général de Medécine, where he relates several cases which came under his own observation.

A woman was delivered for the first time, of twins, one of them being alive and the other dead. She continued well during her pregnancy, and the labour was natural. M. Brachet having examined the dead fœtus, and finding nothing in the three splanchnic cavities to account for its death, was led to examine the two placentæ. The one belonging to the living child was of a reddish colour, and of a moderately firm consistence; and on pressing it, nothing but florid blood ran out. The cord was healthy. The other placenta had a livid colour, it was voluminous, of a very firm consistence, and its tissue was compact, yielding with difficulty to pressure; but it was more friable than that of the other, and easily torn. On being cut into, its appearance was like that of the red hepatization of the lungs, and on its surface being scraped, it gave a thick reddish fluid. M. Brachet attributes the death of the fœtus to the disease of the placenta, which disease being regarded analogous to inflammation of the lungs, he terms inflammation of the placenta.

Madame P—— had a fall in her seventh month of pregnancy. After this she felt great pain in the abdomen and loins, and she was obliged to keep her bed for three weeks. Seven weeks after the accident, she was delivered of a very lean, feeble child. On the fœtal surface of the placenta there were found two white, foul tumours, about the size of pigeon's eggs, each of which contained a quantity of lactescent fluid, having all the characters of pus. The following year, Madame P—— was again delivered of a dead child, whose abdomen was of a greenish hue, deprived of its epidermis in its passage through the pelvis. The placenta was very voluminous; three-fourths of its extent was occupied by a large depôt, which contained more than a glassful of purulent matter mixed with blood.

M. Brachet relates eleven cases where the placenta was found diseased, and the fœtus was either dead or in a feeble state in each. This is a subject well worthy of attention, for we believe very little has been yet paid to it. —*London Med. Repos.*

Rupture of the Vena Cava Inferior.—Dr. Merry was requested to visit a young man, who, it was stated, had fallen down in a fit. He found him extended upon the floor, in a state of insensibility. The usual means, bleeding, the administration of brandy and other stimulants, were immediately employed, but without the least effect.

The body was examined 24 hours after death, in presence of two eminent surgeons of Kensington: the appearances which presented themselves were the following. On opening the thorax the right lung was found adhering firmly to the pleura, the heart perfectly healthy in structure, and of the natural size.

On the abdominal viscera being exposed, the liver was found much enlarged and indurated, a large quantity of coagulated blood in the cavity of the abdomen; upon minute examination the vena cava inferior was found extensively ruptured, in the situation of the fourth lumbar vertebra, just before the vein terminates by dividing into two iliac veins; the

coats were rather thinner than usual at the part that was ruptured, but there was no appearance of ulceration; the only symptom he complained of previous to the accident, was a pain in the right side. The subject of this accident was a robust young man, 24 years of age.—*Lancet.*

M. Roux, a distinguished surgeon in the department of the Var, has recently made an ingenious application of the principles of the Taliacotian operation to the treatment of cancers of the lips; borrowing from the lateral parts of the face and neck, the materials necessary to replace the loss of substance occasioned by their removal. His method is applicable to a great number of cases, and especially to those where the extent of ulceration prevents an incision in form of the letter V. Among the cases published by him, there is one, the principal circumstances of which are subjoined, in order to convey a better idea of the operation. The cancer occupied the lower lip, extending two inches towards the left cheek, an inch toward the right, and involved the whole chin. Five incisions were made by M. Roux, completely isolating the tumour; to remedy the great loss of substance occasioned by its removal, M. Roux called to mind the extension of which the skin is susceptible, and dissected freely the integuments of the neck throughout the whole extent of the inferior margin of the wound, prolonging the fifth incision downwards; this done, the head was bent forwards, inclining slightly towards the left side, and the chin covered by the portion of skin elevated by the dissection, so that the lower lip was replaced by the border of the third incision, which isolated the part of the tumour occupying the chin. Sutures and adhesive strips were applied, and the cure was completed by the twelfth day; no restraint being experienced in the movements of the head.

This operation, called *Ochylaphastique*, by M. Roux, is ingenious and rational, founded as it is upon one of the most evident properties of the skin; and we do not hesitate to consider it as one of the conquests of surgery, which will, ere long, be consecrated by general experience.—*Gazette de Santé.*

Examination of the Eyes of an Individual affected with Amaurosis; by Prof. Heusinger.—The subject had been amaurotic for a long time, but no particulars could be obtained in relation to his disease. The optic nerve on both sides was wasted; the globe of the eye was well formed, and possessed nearly its usual tension. Although the sclerotica was opened with much care, the escape, in considerable quantity, of a yellowish brown fluid, coagulable by alcohol, could not be prevented. The coagulum was of a beautiful pale yellow colour, which it retained for some hours. The choroid adhered strongly to the sclerotic coat, and appeared deficient in the black pigment. The retina was contracted into folds, but presented no other unusual appearance; the vitreous body was almost entirely wanting; the crystalline was yellow and opaque; on the external surface of the retina, three pyriform, transparent vesicles were found, from the size of a pea to that of a small haricot; the contained fluid coagulated by alcohol, and is supposed by Prof. Heusinger, to have been of the same nature with that already mentioned, which had escaped from some of the vesicles being accidentally opened during the dissection. Both eyes were similarly affected. M. Heusinger is disposed to consider the vesicles as productions of the tunica Jacobi.—*Bul. Univ.*

Ectropium of the External Angle of the Eye.—This disease described by M. Walther, consisted in a reversion of the external angle of the eye, in consequence of a wound in the temporal region, attended with loss of substances. The palpebral commissure was rounded, distended, and had entirely lost its angular form; the conjunctiva had become inflamed, tumefied, and painful, occasioning great deformity. In proceeding to the operation, M. Walther removed, in the first instance, the cilia from the external part of the palpebræ, with a pair of forceps; he then seized the inferior lid at the point where the reversion commenced, and rendering it slightly tense, made an incision with a narrow, blunt-pointed bistoury, extending about a line beyond the commissure; a similar incision was made through the upper lid, the bleeding margins forming an acute angle externally, were brought together by means of sutures, and a complete cure was obtained.—*Bull. Univ. &c.*

New Method of distinguishing Barytes and Strontites.—To the mineral pulverized, a few drops of sulphuric acid, of 66°, are added; if strontites be the subject of experiment, there is a considerable disengagement of caloric; while, if it be barytes, this caloric is accompanied by light, the oxide becomes incandescent, and continues so for some time. It will frequently happen that the vessel in which the experiment is performed will be broken. It may be remarked, 1st, that if the experiment be made with barytes which has been long in powder, the incandescence and evolution of light does not take place, owing, doubtless, to the water which it has absorbed; 2d, the phenomena above mentioned, takes place also, when barytes not pulverized is made use of, but not so promptly. When quick-lime is employed, there is, as in the case of stronties, a disngagement of caloric.—M. Julia-Fontanelle, *Journal de Chem. Med.*

Separation of Bismuth from Mercury by Potassium.—M. Serullas has pointed a striking instance of the separation of bismuth from mercury. He says a twelve hundredthousandth, and even less of bismuth, when dissolved in mer-

cury, may be separated and rendered visible by the addition of a certain quantity of the amalgam of potassium and a little water. A black powder is observed to rise from the substance of the metal, and is a mixture of bismuth and mercury in a very divided state; it rises to the surface or adheres to the vessels.

Copper, lead, tin, and silver, are equally separated, but not so promptly, or so evidently to the eye as bismuth; for they are not associated with divided mercury, at the time of their separation, like the latter: with bismuth a mere atom is rendered visible, and M. Serullas thinks that chemistry does not present a more delicate test than the amalgam of potassium for bismuth in mercury.—*Annales de Chimie. Quarterly Journal.*

New Chloride of Manganese.—M. Dumas obtained this compound by putting a solution of manganesic acid into contact with sulphuric acid and fused common salt. Water and the new chloride are formed; the former is retained by the acid, the latter volatilizes in a gaseous form, with a greenish tint, and when passed into a tube cooled to 5° or 4° of Fahrenheit, it condenses the liquid of a brownish-green colour. The most simple process appears to be to form a common green chameleon, to convert it into red chameleon by sulphuric acid, and to evaporate the solution, which will give a residue consisting of sulphate and manganesate of potash. This mixture acted upon by concentrated sulphuric acid produces the solution of manganesic acid, into which the common salt is to be thrown in small pieces until the vapours which rise are colourless; the latter effect is a sign that all the manganesic acid is decomposed, and that muriatic acid only is produced. This chloride of manganese corresponds in proportions to the manganesic acid; it is readily formed and examined, but not easily preserved. An analogous compound is obtained when a fluoride is used instead of the chloride, but a sufficient quantity for examination has not yet been procurable.—*Annales de Chimie.*

New Borate of Soda.—M. Payen lately presented to the Society of Pharmacy a new borate of soda, which will advantageously be substituted for calcined borax. It crystallizes in regular octahedrons, is harder than common borax, and is almost as sonorous as cast iron: its fracture is vitreous, and rather undulated. When immersed in water, the crystals become opaque, and retain their opacity in dry air.

This borate differs but little from common borax; except in containing less water of crystallization. It is more convenient for soldering copper than common borax, because it does not swell so much.—*Journal de Pharmacie.*

Elementary Nature of Bromine.—Iodine colours a solution of starch blue, bromine renders a similar solution orange colour. M. A. de la Rive added a few drops of bromine to a solution of starch coloured blue by iodine, and obtained a compound which gave two distinct colours with starch—one brown, the other yellow; the difference of colour corresponding with the two bromides of iodine described by M. Balard. These compounds of iodine and bromine, dissolved in a solution of starch, were subjected to the voltaic pile: immediately the yellow solution became blue about the negative pole and orange about the positive pole, indicating the separation and places of the iodine and bromine. Thus the smallest quantity of iodine may be discovered in bromine; but when the experiment was resorted to, to prove whether the idea thrown out, that bromine was a compound of chlorine and iodine, was founded in fact or not, it gave no such indication, and a solution of bromine in starch electrified for a long time together, gave no appearance of iodine. Hence M. de la Rive concludes, that bromine contains no iodine, but is an element analogous to iodine and chlorine. When bromine and iodine are combined, the former passes to the positive pole, and is consequently more negative than the latter; which accords with the observation of M. Balard, that it should occupy a place between chlorine and iodine. According to the *Bulleten Universel*, when the letter to M. Arago, containing an account of the facts above referred to, was read to the Academy of Sciences, that body decided that the assertion of M. Dumas, that bromine was a compound of chlorine and iodine, should be considered as retracted, and that it should be so entered upon the *proces-verbal* of the sitting.—*Quarterly Journal.*

On the Power of Water and Bromine in conducting Electricity.—M. de la Rive found, as had been previously ascertained by M. Balard, that pure dry bromine did not conduct the electricity of a voltaic battery, consisting of sixty pairs of plates very strongly charged, a delicate galvanometer being the test. A similar experiment was then made with pure water contained in a glass capsule, and communicated with the battery and galvanometer by platina wires; and the deviation of the needle was scarcely sensible. A few drops of bromine were then added to the water, which soon imparted a yellow colour to the water; being now included in the voltaic circuit, the galvanometer needle was deviated 70°, and an abundant disengagement of gas took place from the platina wires. There were oxygen and hydrogen in the usual proportions, showing that water only had been decomposed. From these experiments it results, that a body which conducts voltaic electricity very imperfectly, namely, pure water, may be rendered a good conductor by holding in solution a very minute quantity of a perfectly non-conducting substance, namely, bromine: the same fact occurs with iodine, and iodine and water. —*Annales de Chimie.*

Mercury detected in the Glands, &c.—Upon an analysis recently made in the Chemical Laboratory of the Faculty, this mineral has been obtained in its metallic state, from the mammary and salivary glands, and those of the mesentery and great intestine, taken from a young woman who died of puerperal peritonitis, for which it was largely employed in frictions, (twelve ounces and five drachms in the space of sixteen days.) This result, opposed to the assertion of a great number of chemists and physicians, is corroborative of the researches of MM. Fourcroy, Dumeril, Orfila and Cruveilhier, who have observed mercurial globules in the bones, and substance of the brain and nerves, and removes all doubt as to the correctness of the fact, notwithstanding the acrimony and ridicule with which it has been combated.—*Journal des Progrés, &c.*

Dr. Desaignes relates the following symptoms as arising from an attempt at suicide, with a drachm and a half of a solution of the hydriodate of potash. General *malaise,* nausea, and a sensation of burning heat, with acute pain in the neighbourhood of the epigastric region, immediately following the attempt. One hour afterwards, there supervened vomiting of a yellowish fluid, with a strongly marked taste of iodine, according to the patient; extreme agitation, continual moanings, paleness of the face, cephalalgia and vertigo; the two last symptoms continued after all the others had disappeared, and were not removed till the fifth day; there was neither fever nor gastric or intestinal inflammation.

The treatment was very simple, consisting in the administration of warm water to promote vomiting, enemata, a concentrated solution of gum as a ptisan, and some spoonfuls of an antispasmodic mixture.—*Journal de Chimie Med.*

Suffocation occasioned by the presence of a Leech in the Larynx.—The subject of this case, a soldier, swallowed a leech while drinking in a rivulet; a physician was called immediately and found him with his countenance suffused and tumefied, foaming at the mouth, and respiration almost entirely suspended; these symptoms ceased after a time, to appear again at various intervals. The presence of a foreign body in the larynx was suspected, and laryngotomy proposed as the only means of preserving life, but in the act of performing the operation, the unfortunate man expired in a state of suffocation. On opening the larynx, a leech was found adhering with such force to the right ventricle, that it could not be detached without difficulty. The same journal contains a case of hæmatemesis, arising from the presence of a leech in the stomach, which continued fifteen days, and ceased only by the discharge of the animal.—*Journal Universal, &c.*

Extirpation of the Uterus.—Dr. Blundell has recently performed one of the boldest operations in surgery, the complete extirpation of the uterus per vaginam. The patient, upwards of forty years of age, was affected with cancer of the organ; she bore the operation, (necessarily tedious and painful,) with great fortitude—not more than six or eight ounces of blood were lost, and no ligature was applied. Up to the 16th day, not a single untoward symptom had occured; there had been throughout little discharge from the part, and at the period mentioned, the wound had healed to within the extent of a shilling; the woman was free from pain, slept well, appetite good, &c.—*Lancet.*

Congenital Luxation of the Femora.—This phenomenon, for a detailed account of which we are indebted to M. Dupuytren, has recently fallen under the notice of M. Breschet, at the Hotel Dieu. The patient, an old man, sixty years of age, entered that institution for retention of urine. The bones were luxated backwards and upwards upon the ileum, occasioning a considerable projection of the glutei muscles; the knees were turned inwards; the patient was able to separate his extremities only to a very small degree,—as might be anticipated, his gait was very irregular. A more particular account of the case will be given by M. Breschet, in a memoir which he intends shortly to publish on the subject.—*Nouv. Biblioth. Médicale.*

Gangrene of the Uterus.—A woman, thirty-seven years of age, the mother of six children, had a prolapsus of the vagina, followed by an abundant leucorrhœal discharge after her last accouchment. Four years afterwards, she became pregnant the seventh time, during which she was attacked with fever, cough, oppression, &c. Towards the seventh month, dull uterine pains, the discharge of a greenish fluid, and other symptoms announced approaching abortion. Thirty-six hours, however, after the evacuation of the waters, the os uteri was observed very slightly dilated, and the uterus itself, appeared to have lost its expulsive power; the case was a foot presentation, and the fœtus was ultimately extracted with great difficulty, covered by a glutinous and putrid substance. The placenta was discharged spontaneously. The lochia did not appear, but the patient was attacked in quick succession with a severe shivering, cough, and an intense heat over the whole body; the pulse was small and frequent, and she was in a state of extreme anxiety; other symptoms subsequently developed themselves, pain in the thorax and right groin, a discharge of grumous matter from the uterus, vomiting, tension and pain in the abdomen, &c. &c. and terminated her existence five days after delivery.

On opening the abdomen, there was a discharge in considerable quantity of a milky fluid, which had deposited a concrete pellicle on the surface of the intestines, liver, &c.; it exhaled a fetid odour, and was not coagulable by the action of heat or vinegar. The liver

and spleen were voluminous, the heart large and flabby, weighing fourteen ounces and six scruples; the uterus was of a brown colour and possessed a gangrenous odour; purulent points were observed near the orifice of the tubes.—Paletta. *Exercitationes Pathologicæ, Jour. des Progrés.*

Successive Abolition of the Senses.—M. C. J———, a native of Corsica, and allied to the family of Napoleon, after a life of unrestrained indulgence, was suddenly attacked with gutta serena. Notwithstanding his blindness, he still continued to discharge the duties of his office with undiminished ability, his letters, papers, &c. being classified in such a manner, that he could find them without assistance in case of necessity. The other senses acquired a remarkable degree of perfection, and the touch became so delicate that he was able to recognise the different rare editions which he possessed, and could distinguish the manner in which the various engravings had been made; he played at trictrac, and was the delight of the society with which he associated. Some time later, his hearing became impaired, and complete deafness suddenly supervened. His memory continued in extraordinary vigour. At a subsequent period, general sensibility and contractility was extinguished; the whole surface of the body became insensible, and the extremities were gradually deprived of motion; still, however, the power of speech and mastication remained. His wife having discovered that one of his cheeks was slightly sensible, the active imagination of the patient, suggested to him the idea of having letters traced upon this part, which he pronounced as they were finished, and in this way could be made to comprehend several phrases. His mental faculties were so active, that he would frequently anticipate the meaning of the communication from the first syllable traced in the manner just mentioned; and this morbid energy of the intelligence increased in proportion as the faculties of relation were destroyed. His condition assumed progressively a more unfavourable aspect; the fæces were passed involuntarily, and after several years of suffering, moral rather than physical, the unfortunate man expired. No examination was permitted.

During the development of his disease, M. J——— had a daughter, who was born an albino. M. de Fermon, the narrator of the case, inquires whether this condition is referrible to the alteration of the nervous system of the father.—*Bull. Univ.*

Periodical Contraction of the Extremities.—The patient, a robust young woman from the country, consulted Dr. Fallot in December 1826, and gave the following history of her case. Seven months previously, the catamenial discharge was suddenly suppressed in consequence of fright from a dog which she supposed to be rabid, and all the means subsequently employed to induce its recurrence had proved ineffectual. In September she was troubled with an uneasy pricking sensation in the inferior extremities, accompanied with sudden and painful twitchings. In the following month, the contraction of the flexor muscles gradually proceeded to such an extent, that the heels were forcibly applied to the posterior part of the thighs, and every attempt at extension occasioned the most acute pain. At the expiration of five days, relaxation took place, and weakness of the affected limbs was the only remaining symptom.

The contraction recurred after the lapse of a month, and followed precisely the same course, leaving the gait more feeble and vacillating than before. In other respects, the patient appeared to be in perfect health.

Founding his treatment on the supposed existence of congestion of the spinal cord, its investing membranes, Dr. Fallot directed the application of thirty leeches from the loins to the coccyx; the flow of blood was considerable, but whether owing to its not being sufficiently so, or to the proximity of the paroxysm, it proved inadequate to prevent its recurrence, which took place three days aftewards, but not however to the same extent as formerly. The leeches were again applied the succeeding month and the contraction did not return; the prickling sensation and twitchings above mentioned, however, still continued, the latter not unlike those produced by electricity. The same treatment was continued at each subsequent period; the catamenia were re-established in April, and the patient thenceforth enjoyed her usual health.—*Journal Complementaire, &c.*

Pills of Balsam of Copaiba.—M. Soubeiran read to the royal academy, a memoir relative to a new method employed by M. Mialhe of preparing pills from this article. His plan consists in mixing it with one-seventeenth its weight of calcined magnesia, which causes it to assume a proper consistence, after the lapse of a few days. This process furnishes also a mode of detecting the presence of castor oil, with which copaiba is frequently adulterated; the mixture in this case remaining soft and presenting an oleaginous appearance. *Archives Generales de Medecine.*

Remarkable lesion of the Rectum.—The posterior part of this intestine was perforated by the pipe of a syringe, and the fluid contained in the instrument, injected into the cavity of the pelvis. Violent symptoms immediately supervened, and a portion of the rectum became gangrenous, and was detached on the sixth day of the accident, leaving a large opening on its posterior surface, which afforded a passage for the contents of the bowel, and copious injections of emollient fluids were necessary for their dislodgment. Professor Graefe, who was consulted in the case, directed a vegetable diet, pills composed of galbanum and myrrh, injections, consisting of Venice turpentine, diffused in chamomile

water, by means of the yolk of an egg; and lastly, the introduction into the rectum, of the intestine of an animal, distended with water, for which air was afterwards substituted. The preceding treatment was continued about two months, during which the accidental opening gradually diminished, and a complete cure was ultimately obtained without the slightest contraction.—*Archives Generales de Med.*

Spasmodic Contraction of the Urethra.—The following case is extracted from an inaugural dissertation by Dr. Reimoneng of Montpellier, as presenting a remarkable example of this species of stricture. A young man, after violent mental agitation, was attacked with complete retention of urine, and when Dr. R. saw him, the bladder was greatly distended, reaching as high as the umbilicus; the hypogastrium was very tender to the touch, and the patient in a state of agitation little short of delirium. Ineffectual attempts were made to introduce the catheter through the stricture, which appeared elastic and yielding before the point of the instrument,—a considerable hemorrhage followed the operation. Some time after, by dint of great exertion, half a pint of urine was evacuated, which was productive of slight relief; he was bled to the extent of twenty ounces, thirty leeches were directed to the perineum, emollient fomentations, enemata, the warm bath, &c. were successively resorted to, but no further evacuation could be procured. Subsequent attempts to pass the catheter, cat-gut bougie, silver sounds, &c. were as unsuccessful as on the former occasion; the obstruction appeared to be situated about six inches from the orifice of the urethra. A grain of opium was given in the evening which procured some rest; during the night, the patient was awakened by a desire to pass his urine, which now flowed in a full stream, and when Dr. R. repeated his visit in the morning, a bougie No. 6, could be introduced into the bladder without difficulty; he then learnt that his patient had suffered an analogous attack, two years before, brought on by a similar cause, and that it had yielded to a warm bath, continued for two hours, during part of which time he slept.—*Journal des Progrés, &c.*

Expulsion of the Placenta after Abortion.—Dr. Prost, of Vienna, relates a case in which the placenta was expelled eight months after miscarriage had taken place. In another instance the placenta did not come away until one hundred and three days after abortion. Mauriceau, Morgagni, Bonnet, &c., have recorded similar cases. Prost infers, then, that it is more judicious to leave the separation of the placenta to nature, than to use any violent means for its removal during the early months of pregnancy, when abortion takes place. If, however, considerable hemorrhage follow the miscarriage, it may be inferred that the placenta is separated from the uterus, and then it may in most cases be removed without difficulty.—*Lon. Med. Gazette.*

Structure of the Nerves.—MM. Breschet and Raspail have lately been engaged in investigating the structure of the nerves, with a view to ascertain whether there were canals, according to the opinions of the late M. Bogros, permeating their centre or not? The conclusion at which these anatomists have arrived is, that there are no canals in the centre of the nerves, and consequently that it is not by virtue of any fluid contained in them, that the powers of sensation and voluntary motion are performed. In all the cases where an attempt was made to inject mercury into the nerve, this fluid either escaped between the loose cellular membrane and the neurilma, or the neurilma and the nerves; and in no instance continuously through the centre of the nerve.—*Repertoire de Anat.*

Sabulous Formation in the Brain.—Dr. Bergmann of Celle, in a memoir transmitted to the Royal Society of Gottengen, gives an account of twenty cases of earthy granulations occurring in the plexus choroides of the lateral ventricles of the brains of insane persons. These earthy granulations resemble those of the pineal gland. Mr. Stromeyer examined both varieties, and found their constitution similar, and of the following nature: Phosphat of lime in large quantity, phosphat of magnesia in small proportion, traces of carbonate of lime, and an animal substance of an albuminous nature.—*Bullet. Univ.* c. x. p. 128.

Crystallization of Metallic Oxides.—If a solution of nitrate of copper, mingled with very fine charcoal powder, or even deutoxide of copper, be put into a similar tube to that described in the last article, then a plate of copper be introduced and the vessel closed up, in about fifteen days small red transparent octoedral crystals of protoxide of copper will be formed on the plate of metal. Other metals have been subjected to similar experiments, but probably have not yet remained long enough under action.—*Ann. de Chimie.*

Dr. Bally has lately employed strychnine internally in paralysis of the bladder, and has obtained from its use very decided benefit. Three patients have been cured in less than a month by this remedy, given in doses from one-tenth of a grain to two grains, every four and twenty hours.—*Lancet.*

Urinary Calculi in a singular situation.—One hundred and six calculi, of the second class of Dr. Wollaston, were taken from beneath the prepuce of a man labouring under phymosis! The contraction of the urethra had led to the admission of the urine between the glans penis and prepuce, where the fluid had undergone a sort of spontaneous analysis, or decomposition.'—(*Memorie dell' Institute Lombardo-Venetiano.*)

INDEX TO VOL. I.

A.

Page.

Abscess, Peripneumonic, cases of, - 19
of the Abdomen, - - - 362
Amaurosis combined with Paraplegia, 230
Anatomical Plates, - - - - 284
Arachnitis, case of, - - - - 340
Agenesis, Cerebral, - - - - 70
Aneurism treated by Compression, - 87
of the Arteria Innominata, - 118
Diffused Femoral, - - 229
of the Carotid, in which the artery was tied beyond the tumour, 381
of the Aorta, bursting through the left mamma, - - 426
Axillary, of the right side, - 421
Appendicula Vermiformis, diseases of the, 143
Arteries, Temporal, case of a rare Aneurismal Disease of the - 152,566
Varicose, - - - - - 509
Artery, Carotid, ligature of, on account of a Fleshy Tumour, - - - 158
Arsenic, poisoning with, - - - 246
separation of, from Cobalt or Nickel, - - - - 287
Acetate of Lead, Internal Exhibition of, - - - - - - 395,527
Amenorrhœa, treatment of, - - - 478
Ascites with Pregnancy, - - - 83
Alienation, Mental, - - - - 271
Animals, preparation of the bodies of, 278
Aorta, obliteration of the, - - - 73
Apoplexy, Pulmonary, - - - 78
Alopecia, - - - - - - - 86
Abdomen, Penetrating Wound of the, 87
Alcohol, Test of, in the Essential Oils, 89
Absorbent System of Fishes, - - 169
Atropine, - - - - - - - 189
Aloes, Bitter Principle from, - - 191
Modus Operandi of - - - 231
Auscultation, Mediate, Report of an Inquiry into the value of, 38
Laennec on, - - - 193
Amputation, Omission of Ligature in, 138
Anus, Artificial, cured by Pregnancy, 189
Acupuncturation, - - - - 473
Alumina, Metal of, - - - - 284
Asphyxia, Dr. Kay's Experiments on, 481

B.

Bladder, case of Perforation of the, - 121
Black Vomit, - - - - - 365
Brain, supposed Fungus of, benefited by Iodine, - - - - - 366
Inflammation of the, &c. - - 431
Hypertrophy of the, - - - 476
Notice of the Appearances in the, &c. - - - - - 558
Sabulous Formation in the, - 571

Page.

Blenorrhagia, caused by a Fish Bone, - 89
Bees, Rapid Death from the stinging of, 185
Belladonna, Preventive Property of, in Scarlatina, - - - - - 280
Breast, Diseases of the, - - - 370
Beriberi, Mr. Hamilton on the Nature and Treatment of, - - - - - 496
Birds, Stomach of, - - - - 367
Bismuth, separation of, by Mercury, from Potassium, - - - - - 567
Bile, Experiments on the Secretion of, 399
Blood, Oily Matter in, - - - - 89
Bronchotomy, Causes of the Fatal Termination of, - - - - - 315
Bromine, Elementary nature of, - - 568
power of, in conducting Electricity, 568
Bryonine, Effects of, on the Animal System, - - - - - - - 474

C.

Calculi, Biliary, discharged through the Abdominal Parietes, - - 56
Urinary, in a singular situation, 571
Calculus, Intestinal, case of, - - 475
Cardia, Cancer of the, - - - - 83
Cancer of the Tongue, - - - 84
of the Stomach, - - - 240
Cæsarian Operation, twice performed upon the same subject, - - - - 87
Cæsarian Operation, - - 186,191,212
Catalepsy, - - - - - - - 131
Cartilages, Laryngeal, Abscess with earthy Disorganization of the, - - 167
Cranium, Singular Aberration in the Structure of the, - - 187
Simple Fracture of the, - 323
Fracture of, with Depression, &c. 340
Cases of Extensive Fracture of the, - - - - 51,406
Catacausis, - - - - - - - 377
Cantharides, Singular Effect of, - - 283
Mode of Preserving, - 283
Carbonic Acid, Narcotic Properties of, 373
Craniology, Swedenborg's Doctrine of, 286
Cataract, Mr. Stratford on the Varieties of, &c. - - - - - - - 401
Caries, Dr. Nicol on the Treatment of, 434
Carotid, Ligature of, for supposed Aneurism, - - - - - - - 474
Catheter, Female, Suggestions for the Improvement of the, - - - - - 517
Cellular Membrane, case of Diffuse Inflammation of the, - - - - - 548
Cephalalgia, - - - - - - 80
Chest, Laennec on the Diseases of the, 194,289
Cerebellum, Diseases of the, - - - 265
Cinchona, Transplantation of, - - - 90
Cinchonine, Sulphate of, - - - 189

Page.
Chicken Pox, - - - - - - 215
Circulation, Living Worms in the, - 282
Observations on the Phenomena of the, - - - 331
Cinchalona, Examination of, - - 375
Chlorosis, - - - - - - - - 33
Colica Pictonum, - - - - - 75
Hydro-Sulphuric Acid in, - - 280
Chorea, use of Hydro-cyanic Acid in, - 108
Chorea, - - - - - - - - 281
Chloruret of Oxide of Calcium in Purulent Ophthalmia, - - - - - 107
Cholera, Epidemic, Notes on the, - 110
Croup, Operation of Bronchotomy in, 164
Effusion of cold water in, - - 374
Copaiba, Tasteless and Inodorous, - 188
Essential Oil of, - - - 380
Pills of, - - - - - 570
Chlorine, in Hepatalgia, - - - 374
Croton Oil, Effects of, on the Eye, - 377
Cotton of the Ancients, - - - 285
Copper, Decomposition of the Sulphate of, 287
Sulphate of, in Chronic Diarrhœa, 447
Conformation, Observations on some Irregularities of, - - - - - 361
Chloro-cyanic Acid, - - - - - 377
Coup de Soliel, - - - - - - 385
Conium Maculatum, Active Alkaline Principle of, - - - - - - 477
Corneitis, Strumous, - - - - 515
Constipation, case of, - - - - 308
Crystallization of Metallic Oxids, - 571
Cubebs, Oleo-resinous Extract of, - 89
Cullen, Dr. William, Works of, - - 471
Cynanche Parotidea, Employment of Iodine in, - - - - - - 55
Cystotomy, - - - - - - - 88
above the Pubis, - 418,500
Cyanic Acid, Composition of, - - 93
Chyle seen in the Veins of the Jejunum, 151
Cyanosis, Congenital, - - - - 155
Cysts connected with the Liver, - - 559

D.

Digestion, Physiological and Chemical Inquiries on, - - - - - - 43
Diabetes, - - - - - - 53-459
Diaphragm, Strangulated Hernia in the, 63
Dissection, Fatal Consequences of wounds received in, - - - - - - 136
Dislocations, ill consequences following the Reduction of, - - - - - 139
Dover, Dr., Biographical Account of, 183
Dropsies, Morbid Alteration of the Kidneys and Liver in, - 233, 518
Extraordinary case of, - - 313
Ductus Choledichus, peculiarity in the structure of the, 378
Obliteration of the, 383

E.

Ear, Mode in which its Sympathies with other organs are affected, - 114
Functions of the, - - - - 275
Ectropium of the External Angle of the Eye, 567
Elaterium, Dangerous Effects from the External Application of, - - - 474
Elephantiasis Arabum, Case of, - - 222
Encephalon, Diseases of the, - - 325
Page.
Encephalitis, caused by Electro-Puncturation, - - - - - - - 476
Enteritis and Peritonitis, Case of, - 363
Electricity of Gases and the atmosphere, 380
Electro-Puncturation, - - - - 382
Epiglottis, its Influence in the Formation of the Voice, - - - - - - 69
Epispadius, - - - - - - 189
Epiploon, Remarkable Disease of, - 259
Epiplocele, Case of, - - - - - 357
Epilepsy, Case of, detailed by the patient, 276
Equisetum, Diuretic Properties of, - 280
Epithelium, Anatomical Researches on the, 354
Ergot of Rye, - - - - - - 76
Exostosis, see *Sternum*,
Exomphalos, Strangulated, Case of, - 425
Eneuresis, Cases of, - - - - - 458
Eyes, Sympathies of the, - - - 66
Eye, Operative Surgery of the, - - 460
Emphysema, General Sub-cutaneous, 83
of the Heart, - - - 258
Spontaneous, - - - 478
Erysipelas, Phlegmonious, Idiopathic, Observations on, - - 329
Mr. Earle's Case of, - - 442
Ecchymosis, Spontaneous, - - - 364
Extremities, Periodical Contraction of the, 570
Eye of the Fœtus compared with the Adult, - - - - - - - - 478

F.

Frambœsia, - - - - - - - 553
Fever, Origin and Latent Period of, - 15
Clinical Report on the Seat of, 24
Pathology of, - - - - - 142
Efficacy of Hydro-chloruret of lime in, - - - - - 298
Puerperal, employment of Ice in, 375
Dr. Bow's Observations on, 502
Fevers, West-Indian, memoirs of, - 342
Females, commentaries on some of the more important diseases of, - - 28
Femur, fractures of the neck of the, - 148
fracture of, in the uterus, - 379
Mr. Amesbury on non-union of, 506
Femora, congenital Luxation of the, - 569
Feet, gangrene of, from obstructed aorta, 445
Fingers, osteo-sarcorma of the, - - 160
Fishes, absorbent system of, - - 169
electric organs of, - - - 327
air bladder in, - - - 328
poisoning from, - - - 379
Fire, green, - - - - - - 287
Fistula lachrymalis, - - - - 425
Fœtus, nutrition of the, - - - 55
evacuated by the rectum, - 263
included within another, - 283
putrefaction of a living, - - 379
spontaneous evolution of the, 391
Fungus eruption, curable by mercury, 512
Fungus Hæmatodes, case of, in the eye, 207

G.

Gastro-Enteritis without pain, - - 28
Gastro-Enteritis, - - - - - 81
Gastro-Encephalitis, acute, case of, - 16
Gastric affections, M. Barras on, - - 242
Glans Penis, horny excrescence from the, 190

Page.

Ganglions, influence of the middle and inferior cervical on the heart, - - 282
Growth, extraordinary, - - - 90
Glossitis, acute, case of, - - - 161

H.

Hæmorrhagies, danger of, from the rupture of varices, - - - - - 40
Hæmorrhage, cerebral, curious species of, 444
Heart, Adams on the Diseases of, - 13
Aneurismal pouch in the, - 561
Malformation of the, - 188, 457
Mr. Bailey on the functions of the, 423
Ossification of the, - - 427, 208
Rupture of the, - - - 479
peculiar disease of the, - 224, 371
Laennec on the Diseases of the, 289
true polypus of the, - - 383
Diseases of, caused by Onanism, 564
Health, general disorder of the, - 30
Hernia, Mr. Earle's case of, - - 58
strangulated in the Diaphragm, 63
five in the same person, - 187
strangulated, case of, - - 320
diaphragmatic, - - - 381
strangulated, in an infant twenty days old, - - - - - 545
Heat, evolution of, during the compression of water, - - - 94
diminished solubility of substances by, - - - - 95
Head, case of injury of, - - - 213
curious tumour of the, - - 228
Hemlock, new alkali in, - - - 287
Hepatic duct, ulceration of the, - 378
Hemiplegia treated by the alcoholic extract of nux vomica, - - - 477
Humerus, excision of the head of the, 185
Hysteria, - - - - - - 35
Hydrophobia, - - - - - 77
Hydrocyanic acid in chorea, - - 103
Hysterotomy, - - - - - - 186
Hydatids, - - - - - - 187
Hyoscyamine, - - - - - - 189
Hypochondriasis caused by Ague, - 306
Hydrocephalus, case of, with disease of the kidneys and bladder, - - 460
Hydriodate of Potash, symptoms of poisoning from, - - - - - - 569

I.

Inflammation, ileo-cœcal, M. Bally on, 24
Jejunum, chyle observed in the veins of the, - - - - - - - 151
Intestine, perforation of the, - 156, 280
Insects, discovery of a circulation in, - 210
Internal strangulation, case of, - - 337
Intestinal Invaginations, - - - 339
Indigo and Indigogene, - - - - 93
Iritis, - - - - - - - 119
strumous, - - - - - 575
Iris, physiology of the, - - - 542
Imitation, power of, - - - - 374
Iodine, employment of, in cynanche parotidea, - - - - - - 55
Iodide of Sulphur, efficacy of, in cutaneous diseases, - - - - - 374
Iron, prussiate of, - - - - - 87

Page.

Iron, carbonate of, in chorea, - 473
Icthyosis, case of, - - - - - 366

K.

Knee, dropsy of the, cured by Puncture, 255
Kidneys, effects of the extirpation of the, 228
morbid alteration of in Dropsies, 233
suppuration of the, - - 428

L.

Laryngo-Bronchitis, masked by Erysipelas, 89
Laryngitis, œdematosa, - - - 165
chronic, - - - - 166
case of, - - - - 444
Larynx, surgical pathology of the, - 162
foreign bodies in the, - 167
re-establishment of the, - 260
Lachrymal apparatus, anatomy of the nasal part of the, - 116
duct, stricture of the, - 260
Leeches, fatal hæmorrhage from the bites of, 282
Lithotomy, fatal case of, - - - 61
Lithotrity and stone drilling, 220, 377, 409
rewards for the discovery of, 287
Lime, incandescence and light of, - 94
and Litharge, mutual action of, 479
Liver, hydatid of the, - - - 150
morbid alteration of, in dropsies, 518
Lip, singular disease of the, - - 182
Life, Sir George Smith Gibbs on, 248, 296
Ligature of the Extremities in certain diseases, - - - - - - 263
Litmus, fallacy of the infusion of, as a test, - - - - - - - 284
Literature, ancient medical, - - 287
Lightning, mode in which death is produced by, - - - - - 322
Lungs, gangrene of, - - - 89, 262

M.

Mamma situated on the left thigh, - 42
Magnetic repulsion, - - - - 94
Maxilla Inferior, spontaneous separation of the anterior portion of the, 186
amputation of the, - - 374
Manna Gum Tree, - - - - - 285
Mala Praxis,—Rolfe *v.* Stanley, - 561
Matter, tendency of, to become organized, 563
Manganese, New Chloride of, - - 568
Malaria, Dr. Macculloch on, - - 530
Mercury, Musgrave on the unmixed effects of - - - 1
detected in the Glands, - 569
Membranes, mucous, inflammation of the, 163
Membrane, adventitious, on the inner surface of the Dura Mater, - - 560
Measles, period at which they begin to be infectious, - - - - 564
Midwifery, fatal case of Mala-Praxis in, 191
singular case in, - - 525
Monstrosity, - - - - 88, 384, 182
Moxa, treatise on a modified application of, - - - - - - 125
Moon, supposed influence of the, - 192
Mortification, singular case of, - - 265
Monopodia, - - - - - - 479
Muscles, gastrocnemii, congenital absence of the, - - - - - 187
Munificent apothecary, - - - 287

N.

Page.

Nails, diseases of the, - - - 23
Nævus, treatment of, by vaccination, - 186
by Ligature, - 304
singular case of, - - - 382
Natural History, - - - - 90
Nerves, 8th dorsal pair of, tumour growing over the, - - 42
cause of death from ligature of the eighth pair of, - - - 370
distribution of, in muscular fibres, 480
Nervous tissue, regeneration of the, 281
Nitre, peculiar formation of, - - 94
Nitric acid, test for the presence of, - 95
Poisoning by, - - - - 256

O.

Ophthalmia, chloruret of calcium in, - 107
intermittent case of, - 123
Ovaria, connexion of, with the Fallopian tubes in some classes of mammalia, - - - - - - 148
Oxalate of Lime, crystals of, in plants, 382
Onanism, disease of the spinal marrow caused by, - - - 383
Diseases of the Heart, caused by, - - - - - 564
Opium, death caused by the External application of, - - - - 565
Ochyloplastique, - - - - 567
Œsophagus, stricture of the, - - 157
scirrhous contraction and ulceration of the, - - 157
Oxides, combination of, with the essential oils, - - - - - 377
Orbit, deep seated inflammation of, and protrusion of the eye-ball, - - 419
Ovum, human, - - - - 381

P.

Paralytic affection, interesting case of, 57
Paraplegia, case of, - - - - 175
intermitting combined with Amaurosis, - - 230
Mr. Earle on, - - - 238
Palsy of the lower extremities, - 213
Parturition, laborious case of, - - 547
Paper to resist Humidity, - - 94
Manufactured from the liquorice plant, - - - - 283
Parotid duct, operation for fistula of the, 279
Pharynx, foreign substances in the, - 190
Physconia, Hepatica and Splenica, successfully treated by Iodine, - - 357
Phlegmasiæ, remarkable tendency to, 74
Platina, Uralian, new metals in the, - 284
largest known masses of, - 480
Pneumonia and gastro-enteritis, without pain, - - - - - - - 28
Plague, - - - - - - 88
Placenta, detachment of, by the Injection of cold water, - 90
osseous concretions in the, 281
remarks on its safe removal in certain rare cases of obstruction, 353
diseases of the, - - 566
expulsion of, after abortion, 571

Page.

Pregnancy, vomiting attending, - 88
duration of, - - 380
Phlebitis, - - - - - 92, 274
Pneumophthisis Cyanotica, - - 172
Precocity, extraordinary case of, - 185
Pericarditis, cases of, - - - 204
Pericardium, absence of, - - 479
Peritoneal inflammation, - - 252
Pneumogastric nerves, section of the, 273
Pleuritis, followed by suppuration and evacuation of the pus through the lungs and intercostal muscles, - 405
Pelvis, tumour removed from the, - 480
Piperine, employment of, in Intermittent Fever, - - - - - 88
Phthisis Laryngea, - - - 165
Printing, Mosaic, - - - - 287
Prizes proposed by the Royal Academy of Paris, - - - - - 287
Pilimixtion, - - - - - 375
Phosphorus, crystallization of, - 95
solution of, in oils, - 95
Phosphoric acid, singular habitude of, with albumen, - - - - 477
Polygala Senega, Analysis of, - 282
Prolapsus Ani, Dupuytren and Langenbeck's mode of treating, - - 383
Pustule, malignant, cured by the internal administration of Phosphorus, 150
Pupil, artificial, - - - - 360
Prussic acid, efficacy of in stomach complaints, - - - - - - 544
Pulmonary Artery, rupture of, - 585

Q.

Quinine, sulphate of, peculiar effect of the, - - - - - 86
preparation of, without the use of alcohol, - - - 475
applied externally, - - 88
adulteration of, with sugar, 93
means of ascertaining the purity of, - - - - - 350
Quinine, reward for the discovery of, 287
Quassia, experiments on the extract of, 282

R.

Radius, its dislocation backwards, - 367
Rheumatism, treatment of, by tight bandaging, - -
Dr. Scudamore on the nature and treatment of, - 97
Dr. Cazenave on, - 546
Rectum, extirpation of cancer of the, 86
remarkable lesion of the, - 570
Scirrhous carcinoma of the, 429
Rheine, a peculiar substance in Rhubarb, 93
Recherches Necroscopiques, - - 133
Respiration, origin of the power of suspending, possessed by aquatic mamalia and birds, - - - - 432
Roses, method of increasing the odour of, 285
Rye, Ergot of, - - - - 76

S.

Salivation, fatal case of, - - - 27
Saliva, composition of the, - - 86
Salivary Concretion, analysis of, - 380
Shaw, Mr., Obituary of, - - - 85

Page.

Sago, new species of, - - - 86
Sarcoma, Medullary, - - - 355
Small Pox, modified, - - - 215
Scammony, - - - - - - 376
Senses, successive abolition of the, - 570
Smell, sympathies of the organ of, - 115
Speculum Oris, - - - - - 188
Sternum, enormous exostosis of, - 213
Spleen, pemphigoid affection of the, 274
Organization and Functions of, 377
Sensibility, morbid, of half the body, 277
Sex, predestination of the, - - 475
Spinitis, - - - - - - 80, 226
Sigaultian operation, - - - 187
Spina Bifida, cured by Puncture, - 187
interesting case of, - 270
Spine, means generally used for curing a curvature of the, - - - 452
Simarouba, experiments with the extract of, - - - - - - 282
Silver, ammoniuret of, new method of preparing, - - - - - - 476
Soda, new muriate of, - - - 568
new Borate of, - - - 571
Suffocation, occasioned by a Leech in the Larynx, - - - - - - 569
Strychnine in Paralysis of the Bladder, 571
Stomach, pseudo-membrane in the - 88
carcinoma of the, - - 240
Influence of, on the mind, 309, 554
fatal exhalation of blood in the, 373
Perforation of the, - - 379
Solanic acid, - - - - - 382
Sugar, found in the Rhododendron Ponticum, - - - - - 285
of Liquorice, - - - 477
Sulphuric acid, poisoning by, - - 312
Sulphur, effects of heat upon, - - 380
Submersion, death by, - - - 446
Sympathetics, part performed by, in the functions of the Senses, - - - 65
Syphilis, treatment of, without Mercury, - - - - 257, 381
new method of treating, - 456

T.

Tannin, efficacy of, in Uterine Hæmorrhage, - - - - - - - - 85
Tænia, use of the Pomegranate in, - 91
Taste, sympathies of the organ of, - 116
Trachea, surgical Pathology of the, 162
Tracheotomy, Case of, successfully performed, - - - - - - - - 319
Taliacotian Operation, - - - - 378
Transfusion, - - - - - 252, 524
Testicle, Simple Chronic Enlargement of, 63
Extirpation of, followed by Tetanus, - - - - - - 148
Tetanus, - - - - - - 82, 191
following the division of Cicatrices, 249
Tongue, Treatment of Inflammation of the, 80
Cancer of the, - - - 84
Ulcer of the, - - - - 85
Tumour growing over the Ninth Dorsal Nerves, - - - - 42
Hepatic, - - - - - 54
Osseo-sarcomatous, - - 63, 158
Encysted, on the Head, - - 91

Page.

Tumour, Aneurismal, situated between the Brain and Sella Turcica, - 206
Ovarian, Enormous Case of, - 250
Tubercles, - - - - - - 80, 358, 552
Tuberculous Excrescenses on the Hands and Feet, - - - - - - - 281
Turkey, Progress of Medicine in, - 283
Vaccination in, - - - 241
Thumb, Observations on Dislocation of the, 368
Tunica Vaginalis, Ossification of the, 480
Tyrian Purple, - - - - - - 378

V.

Varices, Danger from the Rupture of, 40
Vaccination, Permanent Evidence of, 72
Duration of, - - - 190
in Turkey, 241. In Africa, 494
Dr. Gregory on, - - 556
Urachus, Urine discharged through the, 184
Val de Grace, Hospital Report from the, 334
Vagina, Imperforation of the, - - 376
Vegetable Torpor in the Mulberry Tree, 285
Vegetables, Effect of the Poisonous Gases on, - - - - - - - - - 301
Urethra, Dilatation of the, - - - 52
Extraction of a portion of Silver Catheter from the, - - 476
spasmodic contraction of the, - 571
Ventriloquism, - - - - - - 69
Uterus, Extirpation of the Neck of the, - - - 87, 161, 280
Extirpation of the, - - 266, 569
Phagedenic Ulceration of the, - 122
Diseases of the Neck of the, - 341
Absence of the, - - - 184
Unimpregnated, Distention of, with Blood, - - - - - - 250
double, with double Impregnation, 565
Gangrene of the, - - - 569
Vena Cava Inferior, rupture of, - 566
Vertebra, Fracture and Depression of the First Dorsal, - - - - - 307
Vertebræ, M. Laennec on Dislocation of the, - - - - - - - - 513
Urine, Extravasation of, - - 64, 146
Passage of Substances into the, 71
Icteric, Experiments on, - - 89
Albuminous, - - - - 154
Urinary System, Absence of the, - - 91
Functional Derangement of the, 154
Concretion of Extraordinary Dimensions, - - - - - 286
Vision, M. Rumball on the Focus of, 286
Viscera, Transposition of, - - - 379
Voice, Human, Mayer on the, - - 68
Vomiting attending Pregnancy, - - 88
Vulva, absence of the, - - - 189

W.

Writing, Indelible, - - - - - 283
Wounds, Poisoned, Effects of Compression in, - - - - - - - - 90
Worms, Singular Disease from, - - 375
Worm, Discharge of, through the Umbilicus, - - - - - - - - 381

Z.

Zittmann, Decoction of, compared with other modes of treating Syphilis, - 188